



## THE PRIZE

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# FLORAL ALBUM;

A SELECTION OF

SIXTY BEAUTIFULLY COLOURED FIGURES,

OF TENDER AND HARDY

## ORNAMENTAL PLANTS,

WITH

DESCRIPTIONS, SCIENTIFIC AND POPULAR; INTENDED TO CONVEY BOTH MORAL AND INTELLECTUAL GRATIFICATION.

 $\mathbf{B}\mathbf{Y}$ 

B. MAUND, F.L.S.,

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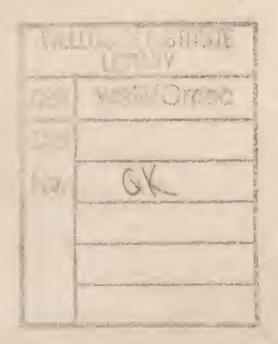
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LONDON:

T. J. ALLMAN, 463, OXFORD STREET.



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### GLOXIN'IA SPECIO'SA.

### SHOWY GLOXINIA.

EXOGENÆ.

OR.

DICOTYLEDONEE.



Natural division to which this Plant belongs.



NATURAL ORDER, GESNERACEÆ.

OF DECANDOLLE.





Artificial divisions to which this Plant belongs





DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 105.

GENUS. GLOXINIA. L'HERITIER. CALYX ovarii dimidio adnatus, limbo quinquepartito libero. Corolla semisuperior obliqua, infundibuliformis aut campanulata subringens, basi postice gibba, tubo ventricoso, limbi patuli labio superiore bilobo, inferiore trilobo. Stamina quatuor, didynama, antheris cohærentibus; rudimentum quinti posticum. Glandulæ quinque perigynæ. Capsula unilocularis, bivalvis, placentis duabus parietalibus bilobis, seminibus numerosis oblongis. Tuber crassum. Caulis simplex vel subnullus. Folia opposita crassa. Flores ampli, axillares.

SPECIES. GLOXINIA SPECIOSA. Londiges. Foliis cano-hirsutis ovali-ellipticis oblongisve crenatis, pedunculis erectis flore longioribus, segmentis calycis angulatis acuminatis pubescentibus.

Character of the Genus, Gloxinia. Calyx adnate to the lower half of the ovary, the limb five-cleft, free. Corolla semi-superior, oblique, funnel shaped or bellshaped somewhat gaping at the mouth, the tube gibbous at the base on the upper side, swelled in the middle, the limbs preading two-lipped, the upper lip of two, the lower of three divisions. Stamens four, didynamous, the anthers cohering. Rudi-ment of a fifth stamen on the upper side. Glands five, perigynous. Capsule one-celled, two-valved, with two parietal two-cleft placentæ, and numerous oblong seeds.

Description of the Species, Gloxinia speciosa. Tuber thick. Stem thick, simple, sometimes very short and entirely concealed by the leaves, sometimes lengthened out to the dimensions of a foot, always more or less hairy. Leaves varying in size from four to six or eight inches in length, borne on short or long footstalks, more or less ovate and elliptical, sometimes very broad and rounded or even heart-shaped at the base, occasionally, especially the upper ones narrowed at the base, always crenate, soft, thick, convex or bullate, and covered with whitish hairs on both sides; upper floral leaves generally reduced to a very small size. Flowers large and numerous, forming a hand-some bunch within the leaves, usually shorter than they are, sometimes

far out-topping them. Each flower is borne on a long axillary ebracteate peduncle. Calvx broadly campanulate, the tube short and adhering to the ovarium, the divisions more or less broadly lanceolate, terminating in a point, from half an inch to three quarters in length, green, hairy, and foliaceous. Corolla nodding, from one and a half to two and a half inches in length, violet coloured on the outside, the divisions of the limb broad rounded, the lower one rather longer and smaller and more deeply separated than the others, all of them pale on the inside, the throat purple and the tube streaked inside white and purple.

Popular and Geographical Notice. Two supposed species of Gloxinia, speciosa and caulescens, are well known to our hothouse amateurs by name, but, in any large collection, so gradual a connecting link between the one and the other may be observed, as to render it impossible to draw any line of distinction; and this is not entirely owing to hybridising, although that has been much practised, but owing to their being naturally but varieties of one species, as shown by native specimens, and consequently garden seedlings must be expected to sport even beyond the limits observed in their own country, the Brasilian empire. The present variety, intermediate between the two extremes in the length of the stem, exceeds most of them in the beauty of colour and size of the flower.

G. B.

Introduced about the year 1815, and being of easy cultivation is become common in our hothouses. The beautiful variety, the subject of the present plate, was raised by Mrs. Lawrence of Drayton Green, where our drawing was made. To this lady—a most liberal patron of floriculture, we are also indebted for numerous specimens of the most splendid newly-introduced exotics. This fine variety of Gloxinia speciosa requires to be kept in the stove; and should be permitted to have a season of rest, by keeping the soil nearly dry when its tuber becomes dormant. It may be raised by cuttings, either of the leaves or stems, and should be potted in a rich soil, mixed with coarse sand.

DERIVATION OF THE NAME.

GLOXINIA, named by L'Héritier in honour of Gloxin, a botanist of Colmar. Speciosa, beautiful.

#### SYNONYMES.

GLOXINIA SPECIOSA, Loddiges' Botanical Cabinet, t. 28. Botanical Reg. t. 213. GLOXINIA CAULESCENS, Botanical Register, t. 1127.





### CHOROZE'MA DICKSO'NII.

DICKSON'S CHOROZEMA.

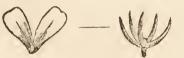
EXOGENÆ,

OI

DICOTYLEDONE A.



Natural division to which this Plant belongs.



NATURAL ORDER, LEGUMINOSÆ.

OF DECANDOLLE.









DECANDRIA, MONOGYNIA, OF LINNEUS.

No. 106.

GENUS. Chorozema. Labillardiere. Calyx ad medium vel brevius bilabiatus, labio superiore lato breviter bifido, inferiore tripartito. Corollæ vexillum alis vix longius, rotundatum emarginatum vel bifidum. Alæ oblongæ basi angustatæ. Carina alis brevior, ventrieosa, obtusa. Stamina libera, filamentis glabris. Ovarium sessile vel breviter stipitatum, dense pluriovulatum. Stylus brevis, uncinato-recurvus, glaber. Stigma obliquum vel subrectum, tenue vel capitatum. Legumen ovatum, sessile vel subsessile, turgidum, intus nudum. Herbæ suffrutices, fruticesve. Folia alterna vel sparsa, simplicia, coriacea, sæpius glabra. Stipulæ parvæ, subulatæ. Inflorescentia racemosa vel axillaris, axillis floridis in racemum terminalem foliosum approximatis. Pedicelli bibracteolati. Flores rubri vel aurantiaci. Bentham: Annalen des Wiener Museums, v. 2, p. 74.

SPECIES. Chorozema Dicksonii, caule fruticoso, erecto; foliis sparsis, lanceolatis, subciliatis, mucronatis, sub-recurvis, utrinque sub-pilosis; racemis foliis oppositis, spicatis; calyce pilis nigris, et albidis longioribus, vestito.

Character of the Genus, Chorozema. Calyx split to the middle or not so deeply into two lips, of which the upper one is broad and shortly two-cleft; the lower one deeply three-cleft. Standard scarcely longer than the wings, round, emarginate or two-cleft. Wings oblong, narrowed at the base. Keel shorter than the wings, ventricose, blunt. Stamens free, the filaments smooth. Ovary sessile or borne on a short stalk, with several ovules. Style short, hooked, smooth. Stigma oblique or nearly straight, slender or capitate. Pod ovate, sessile or nearly so, swollen, without any pithy substance inside.

Description of the Species, Chorozema Dicksonii. Shrub erect, branched, slender, twigs ascending, green, hairy, and sprinkled with darker green spots. Leaves lanceolate, spreading or reflected, ciliated, and having generally, on both surfaces, a few long spreading hairs, mucronate, without stipules, shortly petiolate. Racemes opposite to the leaves, spicate; pedicels cernuous, solitary in the axils of subulate deciduous bracts. Flowers few on each raceme, collected near the apex, large and handsome, orange-red. Calyx bilabiate,

somewhat attenuated at the base, on the outside as well as the pedicels and rachis hairy, the hairs being partly long, white, and spreading, partly short, adpressed, and black, on the inside purple and less hairy; upper lip bifid, the lobes diverging and broad; lower lip tripartite, the segments lanceolate-subulate, reflected. Petals inserted near the base of the calyx, vexillum large, semi-orbicular, reflected, notched, of nearly uniform red orange on both sides, and towards the keel with an oblong yellow spot which is rather longer than the upper lip of the calyx; wings spathulato-elliptical, redder and darker than the vexillum, connivent along the upper edge and at the apex, pitted on the outside, and having a corresponding blunt tooth within; keel subacute, covered by the wings, inflated, its petals agglutinated from the apex to the claws, which are linear and distant. STAMENS included in the keel, ten, free; anthers small, yellow, erect, bursting in front. PISTIL about the same length as the stamens; stigma slightly pointed; style flat, with a dense tuft of short white hairs immediately below the stigma on its outer side, and a small hook above; germen stipulate, closely covered with rather long adpressed hairs, colourless and silky on the sides, black at both sutures. Ovules numerous, (about ten.) R. G.

Popular and Geographical Notice. Australia, that fertile, and most promising country, has exclusively furnished us with numerous genera of plants, particularly of the order Leguminosæ, amongst which our present subject ranks with conspicuous heauty. The first plant of this genus was discovered by Labillardiere, who was attached to the voyage of research, which had for its principal object the discovery of the lost La Perouse, and the genus thereby becomes immortalized by its connexion with these celebrated men.

Introduction; Where grown; Culture. This very handsome plant was raised by Messrs. James Dickson and Sons, of Edinburgh, from seeds received in 1836, from Mrs. Murray of Lintrose, Forfarshire, having been originally imported from Swan River. Its present height, (January, 1839) is three feet, but it appears not unlikely to grow to double this height. It flowers in the greenhouse from May to September. It may be propagated either from seeds or cuttings, and should be planted in sandy peat and loam.

### DERIVATION OF THE NAMES.

Chorozema, from the Greek  $\chi o \rho o c$  choros, a dance;  $\xi \eta \mu \alpha$  zema a drink, in allusion to the joy experienced by Labillardiere on finding fresh water and a species of Chorozema near it.





jatr. pha pandurajaha

### JATROPHA PANDURÆFOLIA.

#### FIDDLE-LEAVED JATROPHA.

EXOGENÆ,

OR

DICOTYLE DONE Æ.



\begin{cases}
Natural division to which this Plant belongs.



NATURAL ORDER, EUPHORBIACEÆ.

MONOCHLAMYDEÆ, OF DECANDOLLE.



Artificial divisions.
to which
this Plant belongs.





MONŒCIA, MONADELPHIA, OF LINNEUS.

No. 107.

GENUS. Jatropha. Linnæus. Flores monoici. Calyx quinquepartitus aut quinquelobus præfloratio convolutiva. Corolla quinquepartita aut nulla; præfloratio contorta. Glandulæ aut squamulæ quinque, rarius nullæ, nunc distinctæ, nunc in annulum sinuatum discumve coalitæ. Masculi: Stamina octo a/4 decem, filamentis infra connatis, quorum tria vel quinque interiora longiora. Feminei. Styli trcs, bilobi bifidive, aut plures dichotomi. Stigmata ser, aut plura. Ovarium triloculare, loculis uniovulates. Fructus capsularis tricoccus. Arbores aut frutices, rarius herbæ lactescentes. Folia alterna, integra vel lobata. Flores axillares seu terminales, corymbosi, plerumque non obscure colorati. Adrien de Jussieu de Euphorbiacearum generibus, p. 37.

SPECIES. Jatropha Panduræfolia. Sims. Caule fruticoso, foliis obovate-oblongis, acuminatis basi irregulariter, dentatis lobatisve, corymbis terminalib as, calycibus breviter quinquelobis, corollis pentapetalis, staminibus decem, quinque interioribus longioribus.

Character of the Genus, Jatropha. Flowers monœcious. Calyx five-cleft, more or less deeply convolute in the bud. Corolla of five petals or none, twisted in the bud. Glands or little scales five, seldom none, either distinct or joined together in a little ring or disk. Male flowers: Stamens eight or ten, the filaments joined together at the base, three or five inner ones longer than the others. Female flowers: Styles three, two-lobed or two-cleft, or several times dichotomous. Stigmas six, or several. Ovary three-celled, with one ovule in each cell. Fruit capsular, of three cocci.

Description of the Species, Jatropha Panduræfolia. Shrub of two or three feet in height, without any hairs, but the stem often marked with oblong tubercles. Leaves on short foot-stalks, three or four inches long, usually obovate-oblong, ending in a long point, broad and entire, or with here and there a very small tooth in the upper part, contracted below the middle, and near the base there are more or less of sharp teeth, and sometimes acuminated lobes, green on the upper side, tinged more or less with red underneath. Stipules very minute, setaceous, with a broad base. Corymbs terminal, on long

foot-stalks. Bracts lanceolate at the base of each ramification, the lower ones half an inch long, the upper ones much shorter. Calyx reddish, bell-shaped, with five teeth or short lobes. Petals five, three times as long as the calyx, slightly connected at the base, obovate or obcordate, of a rich red colour. Stamens in the males, ten, five outer ones just projecting above the tube of the corolla, five longer inner ones. Capsule of the females large and smooth.

Popular and Geographical Notice. This genus, chiefly inhabiting the tropical regions of both continents, is numerous in species, even after the deduction of the Manihots (Janipha), and the Siphonias, or American Caoutchouc trees. They are many of them very ornamental, and furnish some very powerful medicines, amongst others the celebrated Curcas of East India. The present species belongs to a West Indian group remarkable for their large red petals, all of which would be very desirable acquisitions.

G. B.

Introduction; Where grown; Culture. The Jatropha Panduræfolia was first introduced by Mr. J. Fraser from the island of Cuba, in the beginning of the present century. It has ever since remained in our stoves, though not very frequently seen. The great impulse lately given to Horticulture has induced not only the introduction of novelties, but the searching out of many old but beautiful plants lying almost neglected in our stoves; amongst others the present one certainly rivals in appearance many of the handsome new Euphorbias. Our drawing was made in July, from a plant in the rich collection of Mrs. Lawrence of Drayton Green. When successfully cultivated, it is not only a handsome shrub, but a very free flowerer, and deserving a place in every well-stocked stove. It should be notted in a mixture of loam, peat, and sand; and, like other milky succulent plants, have an ample quantity of drainers beneath its roots, and be rather sparingly watered in winter. It may be propagated by cuttings, which should be made in spring just before it commences growing. When these are taken from the parent plant, they should be laid by in the stove, for twenty-four hours at least, previous to being planted. This will reduce their juices, and prevent premature decay. Afterwards plant them in sand, and give a strong bottom heat, which will soon excite them to active vegetation.

DERIVATION OF THE NAMES.

Jatropha, from  $ta\tau\rho o c$  a physician, and  $\tau\rho o \phi \eta$  food, from its importance in medicine. Panduræformis, in botanical Latin, a shape compared to that of our fiddles, though nothing like that of the Roman pandura.

Synonymes.





### GONGO'RA ATROPURPU'REA.

DARK PURPLE GONGORA.

ENDOGENÆ,

OR

MONOCOTYLEDONEÆ.



Natural division to which this plant belongs.



NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ OF LINDLEY.



Artificial divisions
to which
this Plant belongs





GYNANDRIA, MÓNANDRIA, OF LINNEUS.

No. 108.

GENUS. Gongora. Ruiz et Pavon. Perigonii patentis foliola exteriora lateralia libera divaricata, supremum columnæ dorso adnatum; interiora minora, columnæ medio connata. Labellum cum basi columnæ continuum, liberum, unguiculatum, hypochilio explanato utrinque cornuto, epichilio verticali ancipiti (faciebus oppositis complicatis connatis) acuminato. Columna elongata, arcuata, clavata, marginata. Anthera incomplete bilocularis. Polinia duo linearia in caudicula cuneata sessilia. Herbæ Americanæ, epiphytæ, pseudo-bulbosæ. Folia plicata. Racemi elongati, flexuosi, multiflori. Endicher: Genera Plantarum, p. 199.

SPECIES. Gongora atropurpurea. Hooker. Foliis multiplicatis, perigonii foliolis exterioribus e lata basi acuminatis, hypochilio sub-quadricornuto denticulis interjectis.

Character of the Genus, Gongora. Perigon spreading, the outer lateral divisions free and divaricate, the upper one adnate to the back of the column, the inner one smaller, adnate to the middle of the column. Labellum continuous with the base of the column, free, unguiculate; the hypochilium spreading, cornute on both sides, the epichilium vertical, flattened, with the opposite faces folded together and connate, acuminate. Column long, arched, club-shaped, with a margin. Anther incompletely bilocular. Pollen-masses two, linear, sessile, on a wedge-shaped caudicula.

Description of the Species, Gongora atropurpurea. Pseudo-bulbs oblong-cylindrical, deeply sulcate, two-leaved. Leaves ovate lanceolate, with many longitudinal folds, rather wavy, a foot long. Racemes from the base of the pseudo-bulbs, about two or sometimes three feet long, hanging, lax, simple, of a deep brown or chocolate colour which pervades every part of the flower. Upper sepal lanceolate, obtuse, adnate at the base to the back of the column, the margins revolute. Lateral sepals broader, likewise revolute at the margins, spreading from the base of the column. Petals much

smaller, broad, with a twisted apex, and adnate to the sides of the column just below its centre. Labellum continuous with the base of the column, the lower part or hypochilium somewhat spreading, with two erect appendages or horns on each side; those next the column linear and obtuse, the others terminated in a pointed apex; extremity of the labellum or epichilium folded, with the faces adnate so as to form a vertical triangular plate, sharp at its lower edge, furrowed on the upper edge, attached by one angle which is obtuse, the two other angles terminating in a fine point, Column about an inch long, curved, somewhat club-shaped. Anthers terminal, yellow.

POPULAR AND GEOGRAPHICAL NOTICE. A small but very singular South American genus, one species being found in Peru and the present one in Trinidad, where, like other epiphytes, they hang from the stems of trees.

G. B.

Introduction; Where Grown; Culture. This species was transmitted to this country from the isle of Trinidad, by the late Baron de Schach, and first flowered in the Liverpool Botanic Garden, in the year 1825. It has since been much multiplied, and under the hands of such cultivators as the Messrs. Loddiges, in whose splendidly stocked Orchidaceous plant house our drawing was made, specimens may be seen with twenty or thirty magnificent spikes hanging from the same tuft, all round the pot in which it is grown. Dr. Lindley has observed in his Lady's Botany, "It is in tropical countries, in damp woods, or on the sides of hills in a serene and equal climate, that these glorious flowers are seen in all their beauty. Seated on the branches of living trees, or resting among the decayed bark of fallen trunks, or running over mossy rocks, or hanging above the head of the admiring traveller, suspended from the gigantic arm of some monarch of the forest, they develope flowers of the gayest colours, and the most varied forms, and they often fill the woods at night with their mild and delicate fragrance." Notwithstanding the beauty which they display in their own tropical woods, it is questionable whether native specimens were ever found equalling those to which we have alluded.

#### DERIVATION OF THE NAMES.

GONGORA, named by Ruiz and Pavon in honour of a Spaniard of that name. Atropurpurea, dark purple.

#### SYNONYMES.

Gongora atropurpurea. Hooker: Exotic Flora, t. 178. Lindley: Genera and Species, p. 159.





### OXYLO'BIUM SCAN'DENS.

CLIMBING OXYLOBIUM.

EXOGENÆ,

OF

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.





NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ,
OF
DECANDOLLE.





Artificial divisions.
to which
this Plant belongs.





DECANDRIA, MONOGYNIA, OF LINNEUS.

No. 114.

GENUS. Oxylobium. Andrews. Calyx semi-quinquefidus, bilabiatus, labio superiore bifido, inferiore tripartito. Corollæ vexillum alis longius, rotundatum, breviter unguiculatum; alæ oblongæ; carina ovato-oblonga, subrecta, obtusa, alas æquans. Stamina libera, glabra. Ovarium sub-sessile, dense pluriovulatum. Stylus filiformis, incurvus. Legumen ovatum, acutum, sessile, coriaceum vel vix membranaceum, turgidum, uniloculare, valvulis intus lævibus. Semina estrophiolata. Frutices suffruticesve Australasici. Folia verticillata aut sparsa, simplicia, integra, subtus sericea. Stipulæ setaceæ vel nullæ. Inflorescentia racemosa, terminalis vel axillaris. Corollæ luteæ vel croceæ. Ovarium villosissimum. Bentham: Annales des Wiener Museums v. 2, p. 69.

SPECIES. Oxylobium scandens. Benth. Caule debili prostrato vel scandente, foliis oppositis planis coriaceis viridibus subtus leviter sericeis, racemis capitatis pedunculatis axillaribus terminalibusque.

Character of the Genus, Oxylobium. Calyx cleft to the middle in five divisions, arranged in two lips, the upper one consisting of two, the lower one of three divisions. Corolla with a vexillum longer than the wings, roundish, on a short claw; wings oblong, keel oval-oblong, nearly straight, blunt, equal in length to the wings. Stamens free, smooth. Ovary nearly sessile, with many ovules placed close together. Style filiform, curved or hooked. Pod oval, pointed, sessile, coriaceous or slightly membranaceous, swollen, one-celled, the valves smooth inside. Seeds without any strophiola.

Description of the Species, Oxylobium scanders. Stem perennial, and woody at the base, long, slender, trailing or climbing, but not twining like the Phaseoleæ; smooth, except the younger branches, which are clothed with a soft silky pubescence. Stipules setaceous. Leaves opposite, borne on very short footstalks, oblong, sharp or blunt at the extremity, but the midrib always terminated in a sharp point, usually hooked, coriaceous, reticulate, the younger ones white and silky underneath, the adult ones nearly smooth. Flowers in short capitate racemes, which are borne on peduncles usually about an inch long, and spring from the summits of the branches, or from the upper axillæ, each flower supported on a short pedicel at the axilla

of a minute bractea, and bearing two small bracteolæ a little below the calyx. Calyx somewhat silky, divided to the middle into five broadly lanceolate acute laciniæ, which are reflexed during the flowering, and of which the two upper ones are rather less deeply separated. Corolla yellow, the vexillum marked at the base with a crimson spot. Ovary and seed-pod, as in the whole of the genus, densely clothed with long silky hairs.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Oxylobium contains, as far as hitherto known, six or seven species from the South Eastern districts of Australia and from Van Dieman's Land, and two from the South Western colonies. They are all readily distinguished from Chorozema by the yellow flowers, and opposite or verticellate leaves, which are always silky underneath. They are not, however, so easily known from Callistachys, the chief distinction consisting in the seeds, which have a strophiola in Callistachys and not in any species of Oxylobium in which they have been examined. The present species, which comes from the neighbourhood of Port Jackson, differs slightly in appearance from those which are most known, chiefly on account of its trailing habit, and it has consequently been its fate to wander through various genera, with none of which it could be made to agree in character. Referred successively to Chorozema, Podolobium, Daviesia, and even Mirbelia, and rejected from each of them, it is to be hoped that it has now permanently fixed itself in Oxylobium.

Introduction; Where grown; Culture. The Oxylobium scandens was first introduced ten or twelve years ago, and is not unfrequently to be met with in Australian collections under the false name of Mirbelia Baxteri. Our drawing was made in July last, in the Birmingham Horticultural Society's Garden. It is a very showy plant, requiring an airy situation in the greenhouse, near the glass. Its soil should be sandy peat with a little loam; and at each repotting its old ball of soil should be raised a little higher above the top of the pot, to keep the stem from receiving too much moisture. It may be propagated from layers or cuttings, but the best plants are those raised from seeds.

DERIVATION OF THE NAMES.

Oxylobium from  $o\xi v_{\mathcal{C}}$ , sharp or pointed, and  $\lambda o\beta o_{\mathcal{C}}$  a pod. Scandens elimbing. Synonymes.

CHOROZEMA SCANDENS. Smith: Linnean Transactions, v. 9, p. 253.

Podolobium scandens. Decandolle: Prodromus, v. 2, p. 103.

Daviesia umbellata and humifusa. Sieber.

Podolobium humifusum. G. Don: Gardener's Dictionary, v. 2, p. 116.

MIRBELIA BAXTERI. Botanical Register, t. 1434.

CHOROZEMA BAXTERI. Graham: Edinburgh Philosophical Journal, 1831.
OXYLOBIUM SCANDENS. Bentham: Annales des Wiener Museums, v. 2, p. 70.





- Santana Selloumana.

### LANTA'NA SELLOWIA'NA.

SELLOW'S LANTANA.

EXOGENÆ,

OR

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, VERBENACEÆ.

COROLLIFLORAE OF DECANDOLLE.





Artificial divisions to which this Plant belongs.





DIDYNAMIA, ANGIOSPERMIA. OF LINNEUS.

No. 115.

GENUS. Lantana. Linneus. Calyx brevis, tubulosus, obsolete dentatus. Corolla hypogyna, tubo calycem longe superante tenui, limbo patente quadrifido inæquali. Stamina quatuor, inclusa, didynama. Ovarium biloculare, loculis uniovulatis, ovulis e basi loculorum erectis anatropis. Stylus filiformis. Drupa baccata, dipyrena, pyrenibus unilocularibus monospermis. Embryo exalbuminosa, radicula infera. Frutices suffruticesve. Folia opposita vel ternata, simplicia, dentata. Capitula axillaria, pedunculata. Flores bracteati, bracteis exterioribus involucrantibus.

SPECIES. Lantana sellowiana. *Link and Otto*. Fruticosa, gracilis, foliis breviter petiolatis ovato-rhombeis crenato-serratis rugosis piloso-scabris, capitulis florum longe pedunculatis subglobosis, bracteis late cordatis breviter acuminatis, corollæ tubo brevioribus.

Character of the Genus Lantana. Calyx short, tubular, obsoletely-toothed. Corolla hypogynous, the tube slender and much longer than the calyx, the limb spreading, unequally 4-cleft. Stamens four, within the tube of the corolla, didynamous. Ovary two-celled, each cell containing one erect anatropous ovule. Style filiform. Drupe fleshy, of two unilocular one-seeded pyrenes. Embryo without any albumen, and an inferior radicle.

Description of the Species, Lantana Sellowiana. A low branching shrub, often procumbent. Branches slender, twiggy, pubescent. Leaves opposite, on short footstalks, ovate, somewhat rhomboid, rather pointed, sharply crenated, narrowed, or rounded and entire at the base, with short rigid hairs on both sides, and rugose. Peduncles arising from the axillæ, two or three inches long, with minute appressed rigid hairs. Heads of flowers nearly globose. Flowers thickly imbricate, each one placed at the axilla of an ovate rounded, or somewhat heart-shaped bractea, of which the outer ones are much broader and form a sort of involucrum. Tube of the corolla three or four lines long, slender all the way up, pubescent. Limb spreading, consisting of four broad, somewhat retuse, segments, of

which the upper one is rather broader and the lower one rather longer than the others.

Popular and Geographical Notice. The genus Lantana, whether taken in its greatest extent, so as to include not only the old Camaras, but also the greater part or all the Lippias of modern botanists; or confined to its strict and perhaps more appropriate limits, the section Callioreas of Chamisso, is chiefly composed of South and tropical American species. Indeed, the few found in the old world being the same as some of the more common American species, it should, perhaps, be considered as a genus originally peculiar to the new world, from whence some species have spread into similar climates in other quarters of the globe. The present species is one of those which connect, in some measure, Lantana with Lippia; having much of the habit of the latter, with the fruit of the former. It is a native of the mountains of Rio Grande, where it is said by Mr. Tweedie to vary much, and to be frequently very agreeably scented.

G. B.

Introduction; Where grown; Culture. The Lantana Sellowiana was first transmitted to Berlin in the year 1822, from the zealous collector whose name it bears. He had found it in the district of Montevideo. From his seeds it was raised in the Royal Botanical Garden of Berlin, in sufficient abundance to admit of being distributed shortly afterwards to various countries. We appear to have first obtained it in 1829, through the Edinburgh Botanic Garden, and being easily grown and multiplied, and a very desirable plant for early forcing, it is now not uncommon. Our drawing was made in September, at the Messrs. Loddiges' Nursery. There are two varieties of this plant; that of strongest growth should be preferred. During winter it should be kept in a cool stove or warm greenhouse; but early in June it may be turned out into the borders, or entire beds may be formed of it, where it will flower till destroyed by the frost. Cuttings of the young wood strike most quickly in spring. In pots its soil should be rich sandy loam.

DERIVATION OF THE NAMES.

Lantana from lento to bind, a name given by botanists of the sixteenth century to various shrubs, on account of their flexible branches, and transferred by Linnæus to the Camaras of Tournefort, for some reason unknown to us. Sellowiana in honour of Sellow, for many years employed by the Prussian government as their collector in South America.

SYNONYMES.

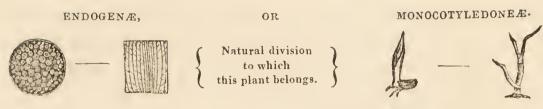
Lantana selloviana. Link and Otto: Abbildungen, p. 107, t. 50. Botanical Magazine, t. 2981.





### SATY'RIUM EREC'TUM.

#### UPRIGHT SATYRIUM.

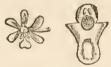


NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.



Artificial divisions to which this Plant belongs.



GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 117.

GENUS. SATYRIUM. SWARTZ. PERIANTHIUM ringens, labio inferiore e sepalis petalisque confecto, superiore e labello galeato, bicalcarato aut bisaccato. Columna sessilis aut elongata. Anthera resupinata, loculis parallelis aut divergentibus. Glandulæ polliniorum nudæ, discretæ. Stigma bilabiatum, labio superiore maximo inferius superante. Herbæ habitu Orchidis. Radices testiculatæ. Lindley: Genera and Species of Orchideous Plants, p. 335.

SPECIES. Satyrium erectum. Thunberg. Foliis ovato-lanceolatis oblongis coriaceis margine cartilagineis scabris patentibus, sensim in vaginis coriaceis convolutis imbricatis mutatis, spica multiflora, bracteis oblongis concavis demum reflexis corolla longioribus, sepalis oblongis petalisque linearibus acutis labello oblongo galeato fere longioribus, calcaribus ovario paulo brevioribus. Lindley.

CHARACTER OF THE GENUS, SATYRIUM. PERIANTH gaping, the lower lip formed of the sepals and petals, the upper one of the helmetshaped two spurred or bisaccate labellum. Columna sessile or elongated. Anther resupinate, the cells parallel or divergent. Glands of the pollen masses naked, distinct. Stigma two-lipped, the upper one large and projecting beyond the lower.

Description of the Species Satyrium Erectum. Stem a foot and a half or more in height, green and marked, especially in the lower part, with vinous purple spots. Leaves clasping the stem, ovate lanceolate, sharp, very broad at the base, green above, marked below with more or less of spots similar to those of the stem, the lower ones nearly six inches long, the upper ones gradually diminishing to the size of the floral bracts. Spike dense, elongating after the flowering, each flower sessile at the axil of a bract, longer than the flower, and reflexed after it fades. Ovarium flat next the stem, convex in front, and marked with three prominent ribs, of which two are waved. Flowers varying through every shade of colour, from brilliant vermillion to a pale and sickly yellow, becoming more or less

spotted with brown as they go off. Sepals or outer divisions of the perigon oblong, lanceolate, sharpish or more or less blunt, rather longer than the labellum. Petals or inner divisions similar, but narrower and rather shorter. Labellum perfectly helmet-shaped, with a longitudinal sharp rib along the back, the two spurs rather shorter than the ovary and closely clasping it. Column elongated. Anther cells parallel.

POPULAR AND GEOGRAPHICAL NOTICE. In the fifth part of Lindley's Genera and Species of Orchideous Plants, there are thirty-eight species of this genus enumerated, of which by far the greater number are found in the colony of the Cape of Good Hope, apparently extending all along the high range of mountains which run parallel to the south coast, some few having also been gathered by Drége in Caffer land, beyond the limits of the colony, but still not far from the south coast. Three species have been found in Madagascar, one in the Isle of Bourbon, and three in the mountains of East India. It is one of those genera which, in South Africa, takes the place of our Orchises and Ophrydes, and appears fully to equal them in beauty, though from the difficulty of bringing them home and keeping them in cultivation, we are but little acquainted with them. The present species which has never yet been figured, and probably now cultivated for the first time in Great Britain, has a wide range in the Cape Colony, being found in various places, from the Table Mountain to Algoa Bay in Uitenhage. G. B.

Introduction; where grown; Culture. Collected on the Table Mountain, by a young German named Siebold, it was by him transmitted to Mr. Skirving, of Walton Nursery, near Liverpool, in May, 1838. From the bulbs there received, a number of specimens were in flower, in Mr. Skirving's stove, in the following February, (1839) when our drawing was made from one of them.

#### DERIVATION OF THE NAMES.

Satyrium an old name of Dioseorides, applied by him and Pliny to various plants supposed to have stimulating properties. As some of them were probably Orchideæ, Linnæus took the name for one of his genera of Gynandria, none of the species of which, however, belongs to the genus to which the name has now become attached. Erectum, upright tall.

#### SYNONYMES.

SATYRIUM ERECTUM. Thunberg: Flora Capensis, Schultes's edition, p. 16. Lindley: Genera and Species, p. 340.





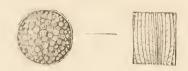
# ONCID'IUM REFLEX'UM.

REFLECTED ONCIDIUM.

ENDOGENE,

OI

MONOCOTYLEDONEÆ.



Natural division
to which
this plant belongs.





NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.



Artificial divisions to which this Plant belongs.





GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 116.

GENUS. Oncidium. Swartz. Perigonii explanati foliola exteriora sæpius undulata, lateralia libera vel sub labello connata, interiora conformia. Labellum maximum columnæ continuum, ecalcaratum, lobatum, basi tuberculatum vel cristatum. Columna erecta, semiteres, apice utrinque alata. Anthera incomplete bilocularis, rostello abbreviato vel clongato, rostrato. Pollinia duo, postice sulcata, caudicula plana, glandula oblonga. Herbæ Americanæ tropicæ, epiphytæ, sæpius pseudo-bulbosæ, foliis coriaceis, scapis paniculatis vaginatis rariusve simplicibus. Endlicher: Genera plantarum, p. 203.

SPECIES. Oncidium reflexum. Lindley. Pseudo-bulbis ovatis monophyllis, foliis anguste-lanceolatis acutis, racemis subcompositis longissimis pendulis multifloris, sepalis petalisque lineari-lanceolatis undulatis acutis reflexis, labello reniformi-emarginato, laciniis lateralibus rotundatis dilatatis planis, crista depressa tridentata, apice bicorni, columna alis falcatis dentatis. Lindley: Botanical Register, Note to t. 1920.

Character of the Genus, Oncidium. Perigon spreading, the outer division usually undulate, the lateral ones free or joined under the labellum, the inner divisions similar to the outer. Labellum large, continuous with the column, not spurred, lobed, tuberculated or cristate at the base. Columna erect, semi-cylindrical, winged on both sides at the top. Anthers incompletely bilocular, the rostellum either short or long, and beaked. Pollen masses two, furrowed at the back, with a flat caudicle and an oblong gland.

Description of the Species, Oncidium reflexum. Pseudo-bulbs oval, each bearing one leaf. Leaves narrow, lanceolate, pointed. Racemes pendulous, two or three feet long, and borne on a long foot-stalk, more or less compound, many flowered. Braces membranous, sheathing at each ramification. Outer and inner divisions of the perigon (sepals and petals) equal in size and similar in form, reflexed, oblong, lanceolate, about half an inch long, pointed, waved on the margin, of a pale, somewhat livid hue, yellowish on the edge. Labellum yellow, three quarters of an inch long, very

unequally three-lobed, the two lateral divisions about a line and half long, round, obtuse, with the margins bent down; the central division narrow at the base, then broadly rounded, almost reniform, and two-lobed; the crista on the base of the labellum consists of a number of tubercles, of which four or six are more prominent than the rest. Columna also yellow, about three lines long, with an oblong or semi-ovate, somewhat falcate, wing on each side.

Popular and Geographical Notice. This beautiful genus forms one of the great ornaments of the woods in the hotter parts of America, especially in the West Indies; and the tierra caliente of Mexico, by the very graceful manner in which its numerous species hang from the stems of the trees. One species, closely allied to the present, is the plant commonly selected by the Mexican Indians to adorn their graves, and many have long been cultivated in the West Indian islands for the beauty of their flowers. The species here figured, which is very nearly allied to Oncidium altissimum, is a Mexican plant.

Introduction; Where grown; Culture. The Oncidium reflexum was first introduced into this country, it is believed, by Messrs. Loddiges of Hackney, who were, at any rate, the first to flower it, in their unrivalled collection. Our figure was taken from a well flowered plant in the collection of G. Glenny, Esq. of Worton Lodge; who obligingly favoured us, at the same time, with a specimen of a new Corræa, to which we hope to pay early attention. This is one of that splendid tribe of orchidaceous plants called Epiphytes (from επι EPI upon, and φυτον PHUTON a plant) in contradistinction to those which are terrestial, or grow on the earth. It should be observed that these plants are not parasitic: although they grow upon other plants they do not, like our mistletoe, receive nourishment from them. Decayed vegetable matter, lodging amongst their roots, may have some influence on their luxuriance; still, however, these Epiphytes are principally dependent on a warm humid atmosphere for their successful growth. "We have found, says Dr. Lindley, that no soil or temperature would nourish them in drought, and that any soil was good when the temperature and atmospheric humidity were carefully regulated. To speak very accurately upon these points, we should say that the mean temperature of the air, in the day, ought to be 87° or thereabouts, and that its humidity should be at the point of saturation, or nearly so."

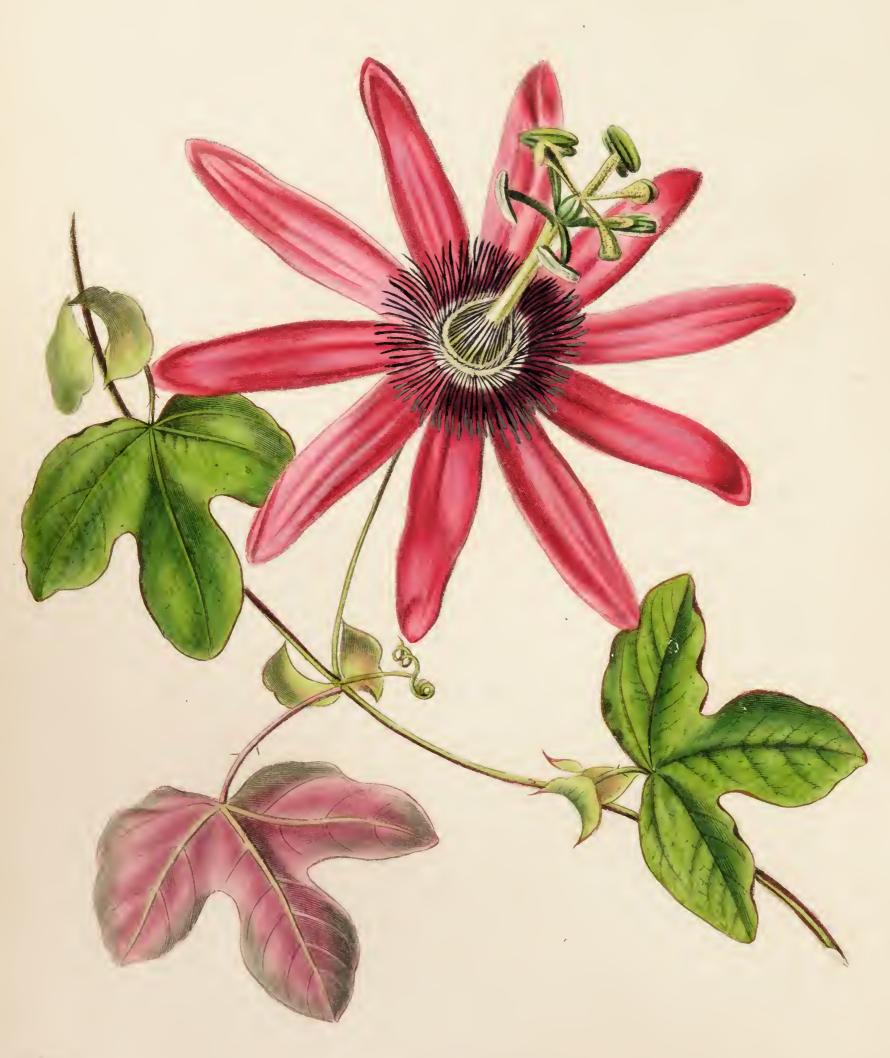
DERIVATION OF THE NAMES.

Oncidium from oykog a tubercle, and eldog form, on account of the tubercular protuberances at the base of the labellum. Reflexum, reflected, in allusion to the divisions of the perigon.

SYNONYME.

Oncidium reflexum. Lindley: Botanical Register, Note to t. 1920.





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- Passiflore hermonne

# PASSIFLO'RA KERMESI'NA.

#### COCHINEAL-COLOURED PASSION-FLOWER.

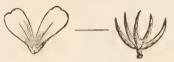
EXOGENÆ.

OR

DICOTYLEDONEE.



Natural division to which this Plant belongs



NATURAL ORDER, PASSIFLOREACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.



Artificial divisions, to which this Plant belongs.





MONADELPHIA, PENTANDRIA, OF LINNEUS.

No. 118.

GENUS. Passiflora. Linneus. Calyx tubo brevi nunc brevissimo, limbo quinquepartito, laciniis sæpius intus coloratis. Petala quinque, rarius nulla, ad faucem calycis inserta, cum laciniis calycis alterna, iis sæpe subconformia at magis colorata. Corona filamentorum uni vel pluriserialis, tubo calycis intra corollam inserta, quarum series exterior e filamentis liberis constat interior c filamentis sæpisissime couniventibus liberis conuatisve. Stamina quinque, toro inserta, cum ovarii stipite alte connata, apice libera, divergentia. Antheræ versatiles. Ovarium extra staminum tubum breviter stipitatum, subtrigonum uniloculare, placentibus tribus parietalibus. Ovula numerosa. Stylus brevis trifidus vel tres liberi. Stigmata tria capitata. Bacca pulposa, rarius submembranacea. Herbæ fruticesve scandentes. Folia alterna, stipulata. Pedunculi axillares, nonnulli cirriferi vel cirriformes cum pedunculis floriferis ex cadem axilla, floriferi sub flore articulati, nudi vel tribracteati.

SPECIES. Passiflora Kermesina. Otto. Scandens, glaberrima, cirrhosa, foliis trilobis, lobis ovatis obtusis basi utrinque 2-3-glaudulosis, petiolo bi-triglanduloso, stipulis semiovatis obliquis, pedunculis elongatis unifloris nudis, calycis segmentis lineari-oblongis, petalis conformibus, corona brevi, seriei interioris conniventis filamentis connatis.

CHARACTER OF THE GENUS, PASSIFLORA. Calyx with a short tube, the limb 5-cleft, the divisions usually coloured inside. Petals five, seldom wanting, inserted at the throat of the calyx, alternating with its divisions, often similar to them, but more coloured. of filaments inserted in the tube of the calyx within the corolla, consisting of one or more concentric rows, of which the outer is composed of free filaments, the innermost of connivent ones, free, or more or less connate. Stamens five, inserted on the torus and connected high up with the stalk of the ovary, free at the top, reflexed or spreading, each bearing a versatile anther. Ovary borne on a stalk projecting slightly above the sheath of the stamina, somewhat three-sided, one-celled, with three many-ovulated parietal placentæ. Style short, trifid, or STIGMAS three, capitate. FRUIT pulpy, or three separate styles. rarely almost membranous.

Description of the Species, Passiflora Kermesina. Stems shrubby, climbing, branches perfectly smooth, as well as the whole plant of a shining or glaucous green, here and there tinged with purple. Leaves alternate, thin, very slightly peltate, divided about to

the middle into three ovate pointed spreading lobes, the lobes entire except two or three small glandular teeth at the base of each of them, and several small serratures near the base of the leaf, the upper side of the leaf green and veined, the under surface often more or less purplish. FOOTSTALKS one to two inches long, bearing one, two, or three stipitate glands. Stipules oblique, broadly semiovate, blunt with a threadlike point, entire or irregularly toothed. Tendrils axillary, simple. PEDUNCLES axillary, six or eight inches long or even longer, spreading, one-flowered, smooth, jointed under the flower, but without any bracts. Calyx tube three or three-and-a-half lines long, broad, thick, of a reddish green, divisions spreading, oblong, linear, an inch-and-ahalf at least in length, blunt, scarcely keeled at the top, and without any dorsal point. Petals oblong, flat, nearly as long as the divisions of the calvx, and like them of a rich crimson colour. Crown consisting of two or three rows of very short purple filaments placed at the top of the tube of the corolla and free, and of an inner row inserted much lower down, and composed of a series of connate filaments of a pale colour, connivent round the staminal tube, and slightly free at the top. There is also near the base of the genital column a short ring or sheath, with five blunt teeth alternating with the stamina. STAMINAL TUBE and ovary green.

Popular and Geographical Notice. The beautiful tribe of Passion-flowers, inhabitants of the warm regions of both hemispheres, but more especially of the South American continent, are eminently adapted for the ornament of our stoves and greenhouses. Being of rapid growth they flower young, and many of the species, especially the one now figured, the Passiflora racemosa, and some others, remain for many months covered with a profusion of flowers. The Passiflora kermesina is a native of Brazil, from whence wild specimens have been transmitted by Sellow, Gardner, and others, gathered in the neighbourhood of Rio Janeiro, the treasures of which district, notwith-standing the long continued labours of native, as well as other collectors, seem to be as yet far from exhausted.

G. B.

Introduction; where grown; Culture. The Passiflora kermesina was first raised at Berlin, from Sellow's seeds, and from thence brought to the garden of the Horticultural Society, in 1830. Our drawing was made at the Messrs. Loddiges. It should be planted in peat, loam, and sand; and cuttings should be struck in sand.

#### DERIVATION OF THE NAMES.

Passiflora or Passion-flower, from some resemblance supposed to exist in the floral appendages to the old representations of our Saviour's Passion. Kermesina cochineal-coloured.

#### SYNONYME.

Passiflora Kermesina. Link and Otto: Abbildungen? Botanical Register, t. 1633. Botanical Magazine, t. 3503.





### CAIOPHO'RA LATERI'TIA.

#### BRICK-RED CAIOPHORA.

EXOGENÆ,

OR

DICOTYLEDONEÆ.



Natural division
to which
this Plant belongs.



NATURAL ORDER, LOASACEÆ.

CALYCIFLORÆ,
OF
DECANDOLLE.





Artificial divisions to which this Plant belongs.





POLYANDRIA, MONOGYNIA, OF LINNEUS.

No. 119.

GENUS. Caiophora. Presl. Calycis tubus ovario adhærens, spiraliter striatus; limbus quinquepartitus, laciniis pinnatifidis. Petala quinque, breviter unguiculata, concava. Squamæ quinque, petaloideæ, petalis alternæ, concavæ, truncatæ vel emarginatæ, dorso tricarinatæ, subtriaristatæ, intus basi filamentis duobus vel quatuor instructæ. Stamina numerosa, in phalanges quinque petalis oppositas disposita. Stylus obtusus, apice trigonus, rarius 4-5-gonus, angulis apice longitudinaliter stigmatiferis. Capsula ovata vel oblonga, calyce reflexo coronata, unilocularis, ad suturas tres spirales dehiscens, polysperma. Placentæ in valvis marginales, demum liberæ. Herbæ habitu Loasæ, sæpe volubiles. Folia opposita. Pedunculi solitarii, uniflori.

SPECIES. Caiophora lateritia. Caule volubili hispido, foliis petiolatis profunde pinnatifidis, laciniis ovatis lanceolatisve, superioribus confluentibus hispidis, squamis corollæ dorso brevissime aristatis, filamentis sterilibus stylo parum brevioribus, capsula subcylindrica.

Character of the Genus, Caiophora. Calyx tube adhering to the ovarium, spirally striated, the limb divided into five pinnatifid lobes. Petals five, shortly clawed, concave. Squamæ five, petaloid, alternate with the petals, concave, truncate or emarginate, three-keeled on the back, often three-pointed, having inside two or four sterile filaments. Stamens numerous, placed opposite the petals in five bundles. Style obtuse, three-angled, the angles bearing the stigmas. Capsule ovate or oblong, crowned with the reflected calyx, one-celled, opening at three spiral sutures, many-seeded. Placentæ along the margin of the valves, at length free.

Description of the Species, Caiophora lateritia. Stem climbing, armed, as well as the leaves, with scattered rigid hairs, each arising from a tubercle and mixed with a number of very short ones. Leaves opposite, petiolate, thin, and membranous, three to six inches long; in their general form ovate lanceolate, pinnately divided, the lower lobes quite to the midrib and even borne on partial footstalks, the upper ones confluent into a long sinuate terminal lobe, each lobe ovate or lanceolate, and toothed. Peduncles axillary, solitary, as long or longer than the leaves, often twisted, bearing each a single flower without any bracts. Calyx with a cylindrical tube, somewhat

turbinate, marked by ten longitudinal, spirally twisted ribs, densely hispid; limb consisting of five broadly linear foliaceous divisions, marked on each side with one or two teeth. Petals five, inserted between the lobes of the calyx, of a brick-red colour, hood-shaped, hairy on the outside. SQUAMÆ five, opposite the divisions of the calyx, about a third the length of the petals, green, concave, threeribbed, truncate at the top, and each dorsal rib terminating in a short brown blunt point. STAMENS arranged in five bundles, placed opposite, and almost inclosed within, the petals; each bundle consisting of about fifteen stamens, which are nearly as long as petals: within each squama are also two filaments, thick and expanded at the base, projecting far beyond the squamæ, connivent round the stigma, tapering and slightly pubescent towards the extremity, which terminates in a minute orange point, usually hooked. Ovary included within the tube of the calyx, one-celled, terminating in a broad, flat, spreading disk, with five roundish green hairy lobes, alternating with the stamens and petals. STYLE thick, cylindrical. STIGMAS three, occasionally four or five, linear, decurrent nearly half way down the style. CENTÆ three, extending the whole length of the ovarium, linear, attached by the back, the margins free, each bearing a very great number of ovules; sometimes where there are four or five styles, there is also a fourth or fifth placenta, extending a short way down the ovarium. Capsule nearly cylindrical, slightly swollen in the middle, much twisted, two to three inches long. SEEDS opening by longitudinal slits along the centre of each placenta, each half of which remains attached to the margin of the valve. Seeds numerous, tuberculated.

Popular and Geographical Notice. The Order of Loasaceæ, to which this genus belongs, is almost exclusively American, there being only one or two species known in the old world from South West Africa. Three species only were known to Linneus, and it now consists of about twelve genera and nearly one hundred species, growing chiefly in the mountainous districts of both portions of the American contient, from the Oregon to South Chile, and from the Pacific eastward as far as the branches of the great chain extend. They form a perfectly distinct order among the polypetalous Calycifloræ, readily known amongst allied groups as well by their habit as by characters easily appreciated.

Their first and most obvious affinity is with Cucurbitaceæ, with which the tendency to a climbing habit, the rigid hairs and asperities of their leaves and stem, as well as the inflorescence and colour of the flowers, give them a general similarity in appearance, confirmed by the adhering calyx, unilocular ovarium, parietal placentæ, and the quinary arrangement of the floral envelopes, usually combined with a

ternary fruit. On the other hand, whilst the structure of the seeds forms a constant and positive distinction between the Orders, the Loasaceæ may also be generally known by the absence of tendrils, hermaphrodite flowers, numerous stamens and dry fruit.

The connection with Passifloraceæ and other Orders allied to Cucurbitaceæ can only be said to be through the latter, and therefore requires no further comment. The older opinion, however, that Loasaceæ are very near Onagraceæ, put forth first, perhaps, by Jussieu, appears never to have been quite abandoned, although founded on a mere artificial character. It seems, indeed, difficult to trace any other resemblance than what is common to all polypetalous calyciflorous Orders; for even the adherent ovarium, the only additional character the two Orders appear to have in common, is not quite constant in Loasaceæ, and is, moreover, of far less importance than the regular binary arrangement of the floral and carpellary parts, and the central placentation which so widely remove the Onagraceæ, independently of the exalbuminous seeds, the very different habit, and other minor characters.

The greater number of Loasaceæ are remarkable for a property which they have in common with the totally different Order of Urticeæ, the stinging nature of the secretion from the hairs, the only drawback to their more general cultivation as ornaments to our flower borders and greenhouses. Yet, as many of them, especially the species now figured, may be trained to a considerable height, and produce a profusion of flowers, they are conspicuous enough to be placed at a distance from the paths, sufficient to avoid all inconvenience in this respect.

Another circumstance, worthy of remark in this order, is the facility with which the transition from petals to stamens may be observed. As in Bartonia and Mentzelia the transition is direct, some species having ten similar petals; others five petals and five petaloid stamina alternating with them; and others again, five petals, with the place of the five others occupied by stamina not in the least differing from the others; so in Loasa, Caiophora, &c. the transition is through the squamæ, which, with the filaments arising from their inner base, are evidently transformations of the petals and bundles of stamina with which they alternate.

One of the most curious anomalies in this Order is the Gronovia scandens of Linneus, which, in its palmately-nerved leaves and definite stamina, affords a further approach to Cucurbitaceæ, whilst it has stinging hairs, hermaphrodite flowers and no tendrils, as in Loasaceæ, and is singular by its solitary pendulous ovarium, and the presence of a cupular disk or corona between the stamina and style.

A considerable approach to this structure is described by Kunth in Klaprothia.

The subject of the present plate, known in our gardens as Loasa lateritia, cannot, unfortunately, retain that name; firstly, because another very different species was previously published under that denomination, by Gillies and Arnott, (see Hooker's Botanical Miscellany, v. 3, p. 330,) and secondly, because the group to which it belongs proves, on examination, to be separated from the mass of Loase by characters of sufficient importance to adopt the genus Caiophora, first proposed for it by Presl in the Reliquiæ Hænkeanæ, though originally indicated by Jussieu, in the fifth volume of the Annales de Museum. The chief point is the dehiscence of the capsule, which opens by spiral longitudinal slits, instead of having the three terminal valves of Loasa. In this respect it approaches Blumenbachia, to which some have suggested that it should be united; but in the latter, the nearly fivecelled ovarium, and the perfectly five-celled fungose fruit, are anomalies in the Order which are certainly of generic importance, and are further confirmed by a peculiar habit, arising chiefly from the palmately-lobed leaves, bracteate peduncles, and white flowers. Many of these particulars are an approach to Cucurbitaceæ, but the flowers and seeds are undoubtedly those of Loasaceæ.

Besides this species, the genus Caiophora comprehends four or five South American plants, from the Cordilleras of South Peru and Chile, and South Western districts of Brazil.

G. B.

Introduction; Where grown; Culture. Found by Mr. Tweedie of Buenos Ayres, in the mountains of Tucuman; it was by him transmitted to the Glasgow Botanical Garden in 1836. It has since then become plentiful, as it is found to be almost hardy, flowers in great profusion nearly the whole year round, and ripens its seed in abundance. Specimens, growing in the open air against a wall in the Botanic Garden of Glasgow; and others without even that protection, trained on an open trellis work, in the garden of James Hunter, Esq. of Hafton, near Dunoon, were last October in the greatest possible beauty, the petals having acquired a much richer hue than is usually the case in our greenhouses. Our drawing was made from a plant which we put out against a wall in May, where it grew, in the course of the summer, to the height of nearly twenty feet, and flowered most luxuriantly.

#### DERIVATION OF THE NAMES.

Caiophora from καιω to burn, and φορος bearing, in allusion, probably, to the stinging nature of the hairs which the plants bear. Lateritia brick-coloured.

#### SYNONYMES.

Loasa lateritia. Hooker: Botanical Magazine, t. 3632, not of Gillies.





## ZICH'YA COCCIN'EA.

#### MANY-FLOWERED ZICHYA.

EXOGENÆ,

DICOTYLEDONE A.



Natural division to which this Plant belongs.



NATURAL ORDER, LEGUMINOSÆ,

DECANDOLLE.





{ Artificial divisions to which this Plant belongs





DECANDRIA.

No 120.

GENUS. ZICHYA. HUGEL. CALYX campanulatus, bilabiatus, labio superiore bidentato, inferiore tripartito. Corollæ vexillum unguiculatum, late orbiculatum, emarginatum, reflexum, basi biappendiculatum, alis longius. Alæ oblongæ, carinæ ultra medium adhærentes. Carina incurva, obtusa, alis brevior vel subæquilonga. Stamina distincte diadelpha, filamento vexillari basi recto inarticulato. Antheræ uniformes. Vagina disci nulla. Ovarium pluriovulatum. Stylus brevis, adscendens, superne in stigma subcapitatum sæpius dilatatum vel breviter appendiculatum desincns. Legumen oblongo-linearc, compressum, coriaceum, sutura seminifera incrassata, isthmis cellulosis multiloculare. Semina strophiolata. Frutices volubiles Australasici. Folia pinnatim trifoliolata, foliolis stipellatis. Pedunculi axillares, apice subumbellatim multiflore. Bracteæ et stipulæ parvæ. Corollæ coccineæ.

SPECIES. ZICHYA COCCINEA. BENTHAM. FOLIOLIS obovatis oblongisve subrepandis supremis ovato-lanceolatis acutis, subtus tomentosis, laciniis calycinis tubo subæquilongis; carina alis parum breviore, stylo apice vix dilatato.

CHARACTER OF THE GENUS, ZICHYA. CALYX bell-shaped, twolipped, the upper lip two-toothed, the lower three cleft. STANDARD clawed, broadly orbicular, emarginate, reflexed, with two inflexed appendages at the base longer than the wings. Wings oblong, adhering to the keel above the middle. Keel incurved, obtuse, shorter than the wings, or about as long. STAMENS distinctly diadelphous, the vexillary filament straight, and not articulate at the base. Anthers similar in form. Sheath at the base of the ovary none. Ovary with several ovules. Style short, ascending, ending in a subcapitate stigma. Pop oblong, linear, compressed, coriaceous, separated internally into several cells by a cellular substance. Seeds with a strophiola.

DESCRIPTION OF THE SPECIES, ZICHYA COCCINEA. Like others of the Kennedia tribe, this is a slender climber. Branches usually pubescent when young. Petioles short. Leaflets from half an inch to an inch or more in length, broadly ovate or obovate, and blunt in the lower leaves, ovate, oblong, and sharp in the upper ones, with

short appressed hairs on the upper surface, and a more or less dense down underneath. Peduncles axillary, usually much longer than the leaves, and bearing at the top a head or umbell of from six to twelve nodding flowers Bracts very small. Pedicels much shorter than the calyx. Calyx about three lines long, divided to near the middle into five lanceolate pointed teeth, of which the two upper ones are joined somewhat higher up. Petals scarlet. Standard marked with a yellowish spot at its base. Keel nearly as long as the wings. Style scarcely dilated at the extremity.

Popular and Geographical Notice. This is another of the genera already referred to at No. 84, in the second volume of the Botanist, as separated from the old genus Kennedia. Independently of the more minute botanical character, it is at once known by the umbellate or capitate inflorescence. It may also be very readily distinguished from the true Kennedias (No. 83 of the Botanist) by the short broadpetals, and especially the form of the keel, and from Hardenbergia (No. 84) by the red flowers. The fourth genus, Physolobium, has flowers much like those of Zichya, but the inflorescence and pod are both different. All the Zichyas appear to be natives of the south-western districts of Australia, the present species having long since been gathered in the vicinity of King George's Sound.

G. B.

Introduction; where grown; Culture. This exceedingly showy climber was first introduced into the Garden of the Malmaison, near Paris, at the beginning of the present century, and has ever since appeared occasionally in our collections, though it is by no means common. The reason is evident; it does not produce suitable shoots for cuttings, without peculiar management. In the spring, a plant should be selected for the purpose, from which all the flower buds should be taken as they appear; and all the shoots should be stopped as they begin to grow, until young shoots are emitted from their joints. These must be taken with a heel of the old stem, be planted in sand, and placed in heat. When thus managed, cuttings will root quickly. The plants require frequent repotting; and they never should be placed out of doors in the summer.

#### DERIVATION OF THE NAMES.

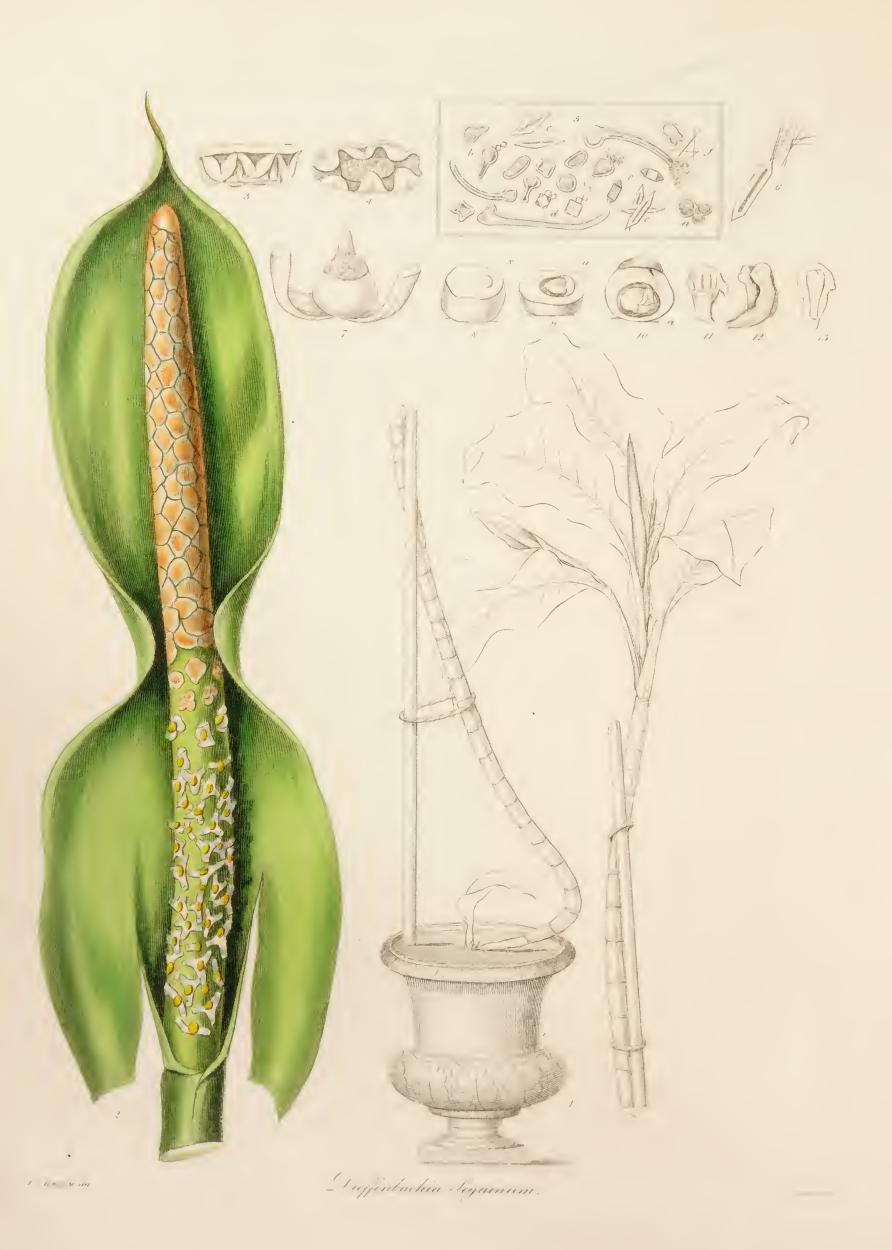
ZICHYA named by Baron Charles von Hugel, who brought seeds of several species home from South-west Australia, in honour of Countess Molly Ziehy Ferraris, a great promoter and patron of horticulture in Austria. COCCINEA scarlet.

#### SYNONYMES.

Kennedia coccinea. Ventenat: Jardin de la Malmaison, t. 105. Botanieal Magazine, t. 2664. Sweet: Flora Australasica, t.

ZICHYA COCCINEA. Bentham: Annalen des Wiener Museums, v. 2, p. 123.





# DIEFFENBA'CHIA SEGUI'NUM.

DUMB CANE.

ENDOGENÆ.

OR

MONOCOTYLEDONEÆ.

to which this Plant belongs.

NATURAL ORDER, ARACEÆ.

SPADICOSA OF LINDLEY.



Artificial divisions to which this Plant belongs.



MONŒCIA,
POLYANDRIA,
OF LINNEUS.

No. 121.

GENUS. Dieffenbachia. Schott. Spatha convoluta. Spadix inferne pseudo-hermaphroditus, spathæ adnatus, superne masculus, liber, appendice sterili nulla. Stamina plurima, antheræ tres vel quatuor, biloculares, oblongæ, connectivo truncato verticillatim adnatæ loculis parallelis, apice poro communi dehiscentibus. Ovaria plurima, libera, singula staminodiis tribus clavatis, basi subconnatis cincta, unilocularia. Ovulum unicum, prope basim parietale, e funiculo brevi adscendens, orthotropum. Stigma discoideum, sessile. Baccæ uniloculares, monospermæ. Semen subglobosum, testa coriacea, crassiuscula, umbilico basilari lato. Embryo in axi albuminis antitropus, extremitate radiculari umbilico e diametro opposita, supera. Endlicher: Genera plantarum, p. 238.

SPECIES. DIEFFENBACHIA SEGUINUM, caulescens ascendens, foliis oblongoovatis acuminatis, spadice spatha oblonga sub-breviore.

Character of the Genus, Dieffenbachia. Spathe convolute. Spadix covered on one side of the lower part with fertile flowers containing abortive stamens, and attached on the other side to the spathe, free in the upper part where it is completely invested by the male flowers, without any marked appendage above them. Stamens numerous, with three or four oblong bilocular anthers, adnate and arranged vertically round a truncate connective, with their cells parallel to the axis, and bursting at the apex by a common pore. Ovaries numerous, free, unilocular, each surrounded by three clavate barren stamens which are united together close to the base. Ovule solitary, attached by a short funicular chord to the paries near the base, ascending, orthotropous. Stigma forming a sessile disk on the summit of

### REFERENCE TO THE DISSECTIONS.

<sup>1,</sup> The entire plant, diminished. 2, The inflorescence, of the natural size; the lower convolute portions of the spathe forced back and torn. 3, Side view of a stamen. 4, Same seen below. 5, The various bodies seen in a mass of ejected pollen. 6, A biforine. 7, A fertile flower with its three staminodia. 8, The ovarium transversely cut a little below the stigma, (s), indicating the descent of the stigmatic tissue, marked by a yellow spot. 9, The same cut a little lower down, exhibiting the top of the ovule and gelatinous expansion of the placenta (a). 10, A vertical section of the ovarium: (a) the placenta partially investing the ovule. 11, The ovulc. 12, The placenta. 13, A vertical section of the ovule, shewing the position of the lobed nucleus.

the ovary. Fruit composed of unilocular one-seeded berries. Seed somewhat globular, with a coriaceous, rather thick testa, and broad umbilical scar (or hilum) at the base. Embryo antitropous, in the axis of the albumen, with the radicular extremity uppermost, diametrically opposite to the umbilical scar.

DESCRIPTION OF THE SPECIES, DIEFFENBACHIA SEGUINUM. STEM between five and six feet long, procumbent unless supported, but ascending towards the extremity, succulent and dark green, marked with pale brown transverse rings, which are the scars of the fallen leaves. Leaves, about half a dozen crown the stem, with a limb of twelve and a petiole of four inches in length; ovate-oblong, waved, acuminate, with a thick midrib from which diverge parallel primary veins, somewhat coriaceous, dark green with a few paler blotches, but no perforations (as is the case in some specimens); petioles channelled, sheathing and terminating upwards in two lobes or auricles somewhat affecting the appearance of a ligule. The limb of the leaf at the base of some flower stalks is abortive, whilst the petiole is still complete. Spathes three or four, axillary, six inches long, on short peduncles, pale green, convoluted in the lower portion, pinched in the middle, and open above. Spadix very little shorter than the spathe, to which it is united along one side throughout that portion of the lower half on which the fertile flowers are seated, but free in the upper portion which bears the barren flowers. Male flowers completely covering the upper half of the spadix, each composed normally of three twocelled anthers, these are agglutinated together, and by mutual pressure each becomes an hexagonal peltate stamen with six anther cells ranged vertically round a thick common connective. It is possible that the process of agglutination is still more complete in some cases, and the stamens of different flowers becoming united, the resulting stamen has occasionally four instead of three anthers; and also that the anthers (as stated in the generic character) may discharge their pollen through a common pore. But in the present example, each anthercell bursts above by a separate and large triangular porc. Towards the middle of the spadix, a few male flowers are scattered in a detached manner, and have an evident tendency to develope their stamens free, and one of them, has even produced a pistil, thus forming a truly hermaphrodite flower, and affording a complete proof (if any were wanting) that each solitary stamen, and each solitary ovarium in other diclinous genera of Araceæ are to be considered

as separate flowers. Female flowers scattered over that portion of the lower part of the spadix which does not adhere to the spathe; each composed of three, or (by abortion) of two or one, abortive white stamens (or staminodia) more or less united at their base, so as to surround with an annulus a green and nearly globular ovary, crowned by a bright yellow glutinous discoid stigma. The ovaries are one-celled, with a single ovule attached laterally to a parietal but nearly basilary placenta, with somewhat the character of a gelatinous arillus half surrounding the ovule. Ovule top-shaped with the apex inclining downwards, being attached about the middle by a short funicular chord. [N. B.—The ovary has been described as two-celled, with several ovules in each cell; apparently from mistaking the single ovule for a dissepiment, and the arillus-like lobes of the placenta for ovules. The ovule, also, is stated to be orthotropous, and with respect to its position in the ovule it is "erect," but with respect to its lateral attachment it would rather be "hemitropous," the axis lying transverse to the hilum.] The embryo was not yet formed, but a section of the ovule showed a nucleus in the axis, with two lobes at the upper end or near the base, which had a striking resemblance to a dicotyledonous embryo. J. S. Henslow.

POPULAR AND GEOGRAPHICAL NOTICE. This plant is abundant in the West Indies, and in cool situations in various parts of tropical America. It has always appeared to us to possess a particular interest, from its so clearly affording a link in the chain of evidence by which the true structure of the flowers of the genus Arum, and others of the same family, have been determined. It will also be seen by our description of the specimen here figured, how completely a slight monstrosity among one of the staminiferous flowers near the middle of the spadix exposes the true nature of the staminodia in the fertile flowers lower down. The Genus Dieffenbachia has been separated from Caladium both on account of its being furnished with these staminodia, and also from having the lower half of the spadix attached on one side to the spathe. The singularly curious microscopic organs named "Biforines" by Mons. Turpin, their discoverer, have been hitherto observed only in the leaves of various species of the old genus Caladium. One of these, from a leaf of the present plant, is represented in our figure 6. Upon scraping a little of the parenchyma from a leaf, especially from its under surface, and placing it on glass, in a drop of water, the biforines are readily detected with a lens

of one-tenth of an inch focal length. They are oblong or cylindrical membranous cells, pointed at each end. Their axis is dark coloured, and composed of a bundle of extremely fine spiculæ, lying parallel to each other, and each of them is nearly as long as the cell. Upon watching these objects for a little while after they have been placed in water under the microscope, the spiculæ are seen to be ejected one by one, at the one or other, or both extremities of the cell. The reaction caused by their ejection moves the cell a little to one side, so that thespiculæ are not all discharged in the same direction, and in consequence they ultimately lie in a confused heap near the point of exit. These organs are so very singular in their structure, and the phenomenon they present is so remarkable, that we are tempted to extend our notice of them, by condensing the detailed account of M. Turpin, in the sixth volume of the new series of the Ann. des Sciences They are there described as always lying between the vesicles of the cellular tissue which they exceed in size, being about \( \frac{1}{10} \) of a millimetre (?) in length. They are composed of three separate parts. The first consists of an exterior perfectly transparent and colourless, though rather thick membrane, forming a vesicle, which is either fusiform, or a cylinder terminated by cones, and which, consequently, when seen under the microscope in profile, appears either like an oval, or a hexagon, with two of its opposite sides considerably elongated. Each extremity is perforated by a small opening, with the edges a little thickened. The second part consists of an inner fusiform vesicle, composed of a transparent, and extremely thin membrane and lying in the axis of the outer vesicle, and extending its whole length, but with the transverse diameter not occupying more than one third of that of the outer vesicle. Within this inner or intestinal vesicle, lies the bundle of numerous acicular chrystals, of nearly the same length as the two vesicles, and completely filling the inner one. A single spicula appears to be perfectly colourless, but collectively they assume a yellowish or brownish tinge. biforines are therefore composed of two organized coats, and these inorganic chrystals. In order that the spiculæ may be ejected, the biforines must be immersed in water whose temperature is not less than 20° C. and then they are emitted at short intervals, from 1 to 6 at a time, the biforines recoiling at each discharge like a little cannon. When all the spiculæ are emitted, the intestinal vesicle collapses; and ultimately the exterior one also does the same, to a greater or less extent. explain this action, Monsieur Turpin supposes that the space between

the two vesicles is filled with a dense mucilaginous sap, of the same quality as that which occurs in the cellular texture of the plants in which they are found. When placed in water, which is of considerably less specific gravity than the sap, the ordinary effects of Endosmose takes place. The water penetrates the coat of the outer vesicle, fills and distends the space between the two, until pressing strongly upon the inner vesicle, it forces a discharge of its contents. The biforines are not confined to the parenchyma of the leaf, but occur in other parts of the cellular tissue, and are even found intermixed with the pollen after it is discharged from the anthers. Our figure 5, represents part of a mass of pollen collected on the surface of the spathe, after it had fallen from the anthers. It formed so pleasing an object for the microscope, that we thought a particular description of it might be acceptable.

1st. Spherical pollen grains, as at (a), of different sizes; their contained granules appearing as a dark central mass surrounded by a transparent coat.

2nd. Pollen grains, as at (b), of irregular shapes; resulting from modifications of the spherical form, by the peculiar action which produces the pollenic-tubes. In some cases the grain was oblong; in others there were one, two, or more prominences upon the surface; and in others the tubes were more or less completely developed, with the granules either still contained in them or dispersed.

3rd. The Biforines, at (c c). In some cases the cell was more or less irregular. They occur either singly, or lying two or three together.

4th. Crystals, from minute specks up to the size of the grains of pollen. Some appeared like squares, as at (d), with dark angles; or with diagonal lines; others, like oblongs with a dark triangle on each end, as at (e). These appearances clearly indicate their form to be a square prism capped at each end with a tetrahedral pyramid; and in all probability they are composed of oxalate of lime,

5th. Raphides, or slender spiculæ, at (f), similar in appearance to, but larger than, those contained in the "biforines."

The Dumb Cane is further remarkable from the extremely acrid properties of its juice, the smallest portion of which when applied to the mouth is sufficient to cause acute pain. It has obtained its popular name from its swelling the tongue and mouth of any one who

bites it, so as to prevent his speaking. An accident which happened to one of the men employed at Kew, who chanced to bite one of these plants, is recorded by Sir W. J. Hooker, where "the tongue swelled to such a degree that he could not move it; he became utterly incapable of speaking, and was confined to the house for some days in the most excruciating torments." In those regions of the West where a barbarous tyranny, supported by unjust, and unchristian laws, ministers to the selfishness of man, by maintaining one unhappy race of our fellow creatures under the curse of a hopeless and degrading bondage, a cruel master will sometimes punish his slave by rubbing the juice of the dumb cane over his mouth; thus inflicting on him a torment which probably could only be exceeded in violence, by flogging him with one of those dreadful species of nettle found in the East Indies, the effects of whose stinging is felt for months, and in some cases is said to produce death. An important use is, however, made of the juice of the Dumb Cane, it being extensively used in the process of refining sugar.

Introduction; Where grown; Culture. This plant has been long in the country, having been cultivated in 1759, by Miller. The present specimen flowered in the stove of the Botanic Garden, at Cambridge, in January and February of the present year, 1839. It requires no particular treatment.

DERIVATION OF THE NAMES.

DIEFFENBACHIA, apparently in honour of Dieffenbach; but not having the Wiener's Zeitschieft at hand, in which Schott instituted the Genus, we cannot say precisely. Seguinum the latinized term for "Seguine," by which name Jacquin informs us this plant is known to the French in the West Indies.

SYNONYMES.

CALADIUM SEGUINUM. Hooker's Exotic Flora, Vol. 1, Pl. 1. Bot. Mag. Vol. 52, Pl. 2606.





Auchapelia tertelos

# TRICHOPI'LIA TOR'TILIS.

TWISTED TRICHOPILIA.

ENDOGENÆ,



Natural division to which this plant belongs.

MONOCOTYLEDONE Æ.

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ OF LINDLEY.





{ Artificial divisions to which this Plant belongs. }



GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 122.

GENUS. TRICHOPILIA. LINDLEY. PERIGONII patentis foliola exteriora et interiora æqualia, linearia, crispa. Labellum magnum, convolutum, columnæ parallelum, trilobum, lobo intermedio subbilobo planiusculo, intus nudum. Columna teres, clavata, clinandrio cucullato trilobo villoso-fimbriato. Anthera unilocularis, compressa, antice convexa. Pollinia duo, postice sulcata, caudiculæ tenui cuneatæ adhærentia, glandula minima. Endlicher: Genera Plantarum, p. 202.

SPECIES. TRICHOPILIA TORTILIS. LINDLEY. HERBA terrestris, pseudobulbis carnosis, vaginis maculatis tectis, monophyllis, foliis coriaceis planis vel leviter complicatis, floribus axillaribus solitariis.

Character of the Genus, Trichopilia. Perigon spreading, the outer and inner divisions equal, linear, crisped. Labellum large, convolute, parallel to the column, three-lobed, the intermediate division nearly two-cleft and flattish, naked inside. Column cylindrical, clubshaped, the receptacle of the anther hood-shaped, three-lobed, fringed with hairs. Anther one-celled, compressed, convex in front. Pollen Masses two, furrowed at the back, adhering to a slender wedge-shaped caudicula, with a very small gland.

Description of the Species, Trichopilia tortilis. Pseudobulbs oblong, furrowed, compressed, covered with brown sheaths, marked with dark spots, and sometimes nearly as long as the leaves. Leaves solitary, oblong, coriaceous, sharp, flat or slightly folded. Flowers large, axillary, solitary, and sessile. Outer and inner divisions of the Perigon equal, linear lanceolate, very spreading, spirally twisted, crisped on the margin where they are of a dingy yellow, brick-coloured in the centre. Labellum nearly as long as the divisions of the perigon, about two inches, white with unequal red spots inside, rolled round the column in the lower part, the limbs very unequally divided into three broad lobes, of which the middle one is very large and slightly cleft. Column continuous with the ovarium, cylindrical, club-shaped, white, the receptacle of the anther extended above it in the shape of a hood, divided into three ascending falcate lobes, which are fringed on the edges. Anthers compressed, with a

little point. Pollen masses two, small, pear-shaped, furrowed at the back, inserted on a wedge-shaped caudicle, with a very small oval gland.

Popular and Geographical Notice. This genus consists but of this single Mexican species, of which the habits are as yet scarcely known. It appears, however, to be terrestrial, and to grow in that tierra caliente, which, with Demerara and tropical Brazil, is now supplying our stoves with innumerable novelties in the inexhaustible tribe of Orchidaceæ. To such a degree, indeed, has the zeal for collecting these interesting plants been carried, that notwithstanding the difficulties attending their cultivation, till lately considered as almost insurmountable, the number of species contained in the stoves of Messrs. Loddiges & Son, according to their last catalogue is 1024, being nearly three times the amount of the total number, including European ones, contained in Persoon's Synopsis, published in 1807, when there were not above two or three dozen in garden lists, and scarcely half a dozen in cultivation.

Introduction; Where grown; Culture. First introduced from Mexico, in 1835, by George Barker, Esq. of Springfield, near Birmingham; this rare and curious plant has since spread into a few of our principal collections. Our drawing was made in winter, at the Messrs. Loddiges', where it thrives under the same treatment as Maxillaria, its nearest allied genus.

It cannot be too frequently noticed that in potting orchidaceous plants every available means should be employed to insure the most perfect drainage. We have not yet seen such as we conceive would be the best pots for the purpose. They may be made without bottoms, with a simple rim projecting outwards at the bottom, as a flange, nearly corresponding with that usually worked round the top. This would give the required strength. A number of little basons, of different sizes, made of the same material as the pot, and perforated all over with holes, a quarter of an inch diameter, would form suitable bottoms. These should be put into the pots with their convex sides upwards; and the conical shape of the pots would admit of these moveable bottoms lodging against their sides at a higher or lower point, according to the size of the bottom chosen, so as to suit the wishes of the cultivator.

DERIVATION OF THE NAMES.

TRICHOPILIA from  $\theta \rho i \xi$ ,  $\tau \rho i \chi o \varsigma$  hair, and  $\pi i \lambda i o \nu$  a cap, in allusion to the fringed hood or cap that covers the anther. Tortilis, twisted.

SYNONYME.

TRICHOPILIA TORTILIS. Lindley: Botanical Register, t. 1863.





### ALLAMAN'DA CATHAR'TICA.

WILLOW-LEAVED ALLAMANDA.

EXOGENÆ,

OR

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, APOCYNACEÆ.

OF DECANDOLLE.





Artificial divisions to which this Plant belongs.





PENTANDRIA, MONOGYNIA, OF LINNEUS.

No. 123.

GENUS. Allamanda. Linneus. Calyx quinquepartitus. Corolla infundibuliformis, tubo cylindrico, fauce squamis quinque ciliatis aucta, limbi quinquefidi campanulati ampli laciniis obtusis subinæqualibus. Stamina quinque, corollæ fauci inserta, inclusa, antheris sagittatis subsessilibus conniventibus. Ovarium uniloculare compressum. Ovula in placenta marginali ambiente plurima, e funiculis longiusculis pendula. Capsula coriacea, elliptica, compressa, echinata, unilocularis, bivalvis. Semina plurima, ala membranacea cincta. Frutices vel suffrutices Americæ tropicæ, crecti vel scandentes. Folia verticillata. Pedunculi terminales et interpetiolares multiflori. Flores speciosi lutei. Endlicher: Genera Plantarum, p. 579.

SPECIES. ALLAMANDA CATHARTICA. LINNEUS. FOLIIS subquaternis oblongis acuminatis glaberrimis.

Character of the Genus, Allamanda. Calyx five-cleft. Corolla funnel-shaped, the tube cylindrical, the throat furnished inside with five hairy scales, the limb five-cleft, very large, bell-shaped, the divisions blunt and slightly unequal. Stamens five, included within the throat of the corolla where they are attached, the anthers dart-shaped, nearly sessile, and connivent. Ovary one-celled, compressed. Ovules several, attached to a marginal placenta, hanging from a long funiculus. Capsule coriaceous, elliptical, compressed, prickly, one-celled, two-valved. Seeds several, surrounded with a membranous wing.

Description of the Species, Allamanda cathartica. Stem climbing, smooth, nearly cylindrical. Leaves four in a whorl, oblong, three to four inches long, usually broader above the middle, and ending in a broad blunt point, narrowed at the base into a short footstalk, leathery, smooth on both sides, shining on the upper surface. Peduncles terminal or interpetiolar, one to three-flowered and short, or sometimes lengthened and bearing a greater number. Calyx with lanceolate green divisions, four or five lines long. Corolla very large and yellow, the tube slender, about an inch long, the limb forming a broad irregular bell about two inches long. In the throat

are inserted five lanceolate, pointed, somewhat dart-shaped ANTHERS, and immediately below them, five short double squamæ, covered with short hairs.

POPULAR AND GEOGRAPHICAL NOTICE. This plant was early known to the naturalists who attended to West Indian Botany, on account of the strong medical properties it has always been supposed to possess. It was first brought from the southern West Indian Islands and Guiana, and various plants resembling the original one having been gathered from the South American Continent as far down as Rio Janeiro, it was supposed that they were all varieties of one species, till Pohl, in his Icones, distinguished them, figuring three which he considered as entirely new, and giving amended characters for the older ones. According to him, the West Indian plant, (which is here described from specimens gathered in St. Vincent's) with perfectly glabrous leaves and stems, is distinct from Aublet's Cayenne Orelia, which has the young branches slightly hairy as well as the under side of the leaves, a character to which the Cayenne specimens scarcely warrant our attaching much importance. It is even matter of great doubt whether Allamanda Schottia of Pohl, should not also be joined, notwithstanding the erect stem attributed to it. The Allamanda cenotheræfolia and angustifolia, and a new species gathered in the mountains of Bahia by Mr. Blanchet, must, however, be adopted, and it is probable that others may yet be discovered. None have been found beyond the limits of the above-mentioned countries. G.B.

Introduction; Where Grown; Culture. The Allamanda cathartica was introduced in 1785, by Baron Hake, from Guiana, and raised in the Royal Gardens at Kew, where it has continued to be grown, and where our drawing was made last summer. It requires the hothouse, to which, however, if badly grown, it may not be thought so splendid an ornament as some others, though if made to flower abundantly it proves very handsome. It should be potted in a rich light loam.

#### DERIVATION OF THE NAMES.

ALLAMANDA, named in honour of Dr. F. Allamand, a professor of Leyden, who wrote on its medicinal properties. Cathartica, purgative.

#### SYNONYMES.

ALLAMANDA CATHARTICA. Linnæus: Mantissa, p. 214. Botanical Magazine, t. 338.

ALLAMANDA LINNÆI. Pohl Icones, v. 1, p. 74.

ALLAMANDA AUBLETII? probably a variety, Pohl, p. 75.





### COR'REA FERRUGI'NEA.

RUSTY CORREA.

EXOGENÆ,

OR

DICOTYLEDONE A.



Natural division to which this Plant belongs.



NATURAL ORDER, RUTACEÆ.

THALAMIFLORÆ,
OF
DECANDOLLE.



Artificial divisions to which this Plant belongs





OCTANDRIA.
MONOGYNIA,
OF LINNEUS.

No 124.

GENUS. Correa. Smith. Calyx cupuliformis, subinteger aut quadrilobus. Petala quatuor, valvatim in tubum approximata partimve coalita. Stamina octo, petalis æqualia aut exserta, quatuor breviora iisdem opposita, filamentis glabris subulatis aut supra basim dilatatis, antheris oblongis. Ovaria quatuor, imposita gynophoro brevi in ambitu staminifero et quasi octolobo, dense stellatim pilosa. Styli quatuor in unum coaliti, stigmate æquali quadrilobo terminatum. Fructus quadri-capsularis. Frutices. Folia opposita, simplicia, integra. Flores in ramulis axillaribus pedunculiformibus terminales. Ramuli, folia et flores, pube stellata dense congesta tomentosa.

SPECIES. Correa ferruginea. Hooker. Foliis ovato-lanceolatis obtusissimis in petiolum angustatis integerrimis, supra viridibus glaberrimis lævibus impresso-punctatis, subtus stellato-tomentosis ferrugineis, floribus solitariis ad ternos terminalibus cylindraceis pendulis, dentibus calycinis acutis, staminibus longe exsertis.

Character of the Genus, Correa. Calyx cup-shaped, nearly entire, or four-cleft. Petals four, arranged in the manner of valves, either close together or joined in part into an apparently monopetalous corolla. Stamens eight, equal to the petals or longer, four of them opposite to the petals, being shorter than the others, the filaments smooth and filiform or dilated above the base, the anthers oblong. Ovaries four, placed on a short stalk which bears the stamens on its circumference, where it is as if eight-lobed, and covered with thick stellate hairs. Styles four, joined into a single one which terminates in a regular four-cleft stigma. Fruit consisting of four capsules.

Description of the Species, Correa ferruginea. Shrub, with the young branches thickly covered with a dense brown-red down, formed of numerous short stellate hairs, thickly matted together. Leaves opposite, from one to two or three inches long, ovate-lanceolate, or oavl oblong, blunt, quite entire, but irregular on the margins, borne on short foot-stalks, the upper surface green and quite smooth, the under side marked with a prominent midrib and covered with a rusty down, similar to that on the stems. Flowers solitary, drooping, borne on short stalks at the end of short axillary branches, bearing one or two leaves. Calyx very short, in the form of a broad cup, with four very small somewhat sharpish teeth. Corolla about three quarters of an inch long, the petals joined to near the top into a tube rather broader towards the mouth, with four broad ovate lobes. Stamens projecting at least a quarter of an inch beyond the corolla.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Correa is strictly Australian, being found all along the southern portion of that continent, and in Van Diemen's Land. It is singular as affording an instance of apparently monopetalous corollas, in a natural Order in which the flower is essentially polypetalous. The elegant manner in which these flowers hang, the good colouring and size of them in many species, attracted the notice of the first collectors in their native country, and some species have now been long in cultivation. The operation of hybridizing has even been practised on them with success, and new forms are frequently springing up in our collections. The present species, however, is a genuine native of Van Diemen's Land, and was first described by Sir William Hooker, from wild specimens, as a remarkable and distinct species, under the name given to it by its discoverer, Major Gunn. Though not so brilliant in colouring as some others, its foliage is elegant, and it may be considered as a valuable acquisition.

Introduction; Where grown; Culture. We have no specific information, regarding the year in which this greenhouse novelty was introduced to Great Britain, but we believe it took place in 1836. Our drawing was made in the Autumn of 1838, from a plant in her Majesty's garden at Kew, where are many other subjects of peculiar interest, which, under the present management of that establishment, are meeting the careful attention which they deserve. Well-ripened cuttings may be struck in sand, under a bell-glass, with bottom heat. When rooted, they should be planted in a mixture of peat and loam. One species—Correa alba, proves to be hardy.

DERIVATION OF THE NAMES.

Correa, named by the late Sir James Edward Smith, in honour of M. Correa de Serra, a Portugese Botanist. Ferruginea, rusty coloured.

SYNONYMES.

CORREA FERRUGINEA. Hooker: Companion to Bot. Mag. v. 1, p. 276.





Portena Chamadrydia

### VERBE'NA CHAMÆDRIFO'LIA.

VERONICA-LEAVED VERBENA.

EXOGENÆ,

oR

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, VERBENACEÆ.

COROLLIFLORÆ,
OF
DECANDOLLE.





Artificial divisions
to which
this Plant belongs.





DIDYNAMIA, ANGIOSPERMIA OF LINNEUS.

No. 129.

GENUS. Verbena. Linneus. Calyx tubulosus, quadri-quinque-dentatus. Corolla tubo cylindrico recto vel incurvo, limbo quinquefido patente inæquali. Stamina quatuor, tubo inclusa, didynama. Ovarium quadriloculare, ovulis solitariis erectis basifixis. Fructus siecus, drupaccus, quadrilocularis, quadripartibilis. Embryonis exalbuminosi radicula infera. Herbæ suffruticesve, in variis regionibus diffusi. Folia opposita. Spicæ axillares vel terminales, simplices vel paniculato-ramosæ, floribus sessilibus bracteatis.

SPECIES. Verbena chamædrifolia. Jussieu. Procumbens vel adscendens, piloso-hispida, foliis breviter petiolatis oblongo-lanceolatis grosse serratis, corymbis pedunculatis multifloris, bracteis brevibus subulato-lanceolatis, calycibus tubulosis hispidis, corollæ tubo calyce duplo longiore, laciniis cuneatis emarginato-bifidis.

CHARACTER OF THE GENUS, VERBENA. CALYX tubular, with four or five short teeth. Corolla with a cylindrical tube, straight or curved; the limb spreading, unequally five-cleft. Stamens four, inclosed in the tube, didynamous. Ovary four-celled; the ovules solitary, erect, fixed by their base to the bottom of the cells. Fruit a dry drupe, with four one-seeded cells, and separable into four parts. Embryo without albumen, and with the radicle inferior.

Description of the Species, Verbena Chamædrifolia. Stem procumbent, sometimes trailing along the ground and rooting at the joints, sometimes ascending but never upright, covered with short rough spreading or reflexed hairs. Leaves borne on very short stalks, oblong-lanceolate, pointed, bordered with coarse irregular teeth, rounded or more frequently wedge-shaped at the base; one to two inches long, rough, somewhat hairy and green on both sides. Flower-spike borne on a long hispid peduncle which is at first terminal but becomes lateral by the elongation of the stem, contracted into a sort of corymb. Flowers sessile in the axilla of a short pointed bractea; the lower ones often opposite, the upper ones alternate. Calyx narrow, tubular, about five lines long, angular, hairy, terminating in five minute teeth, rather swollen at the base as the fruit ripens. Corolla with a yellowish green tube about twice the length of the calyx; the limb spreading, of a rich scarlet in the ordinary variety, a brilliant crimson

in the present one, divided into five wedge-shaped emarginate lobes, of which the two upper are rather shorter.

POPULAR AND GEOGRAPHICAL NOTICE. The extensive genus Verbena, found in almost every temperate or warm region of the globe, is particularly abundant in America, from whence are derived also all those species which have any pretension to ornament. The Verveins in the old world are, indeed, only known as common, unsightly, roadside weeds, whilst their brethren from South America are now one of the greatest attractions of our flower gardens in summer and autumn. Amongst them the Chamædrifolia and Tweediana with their numerous varieties and hybrids are the most conspicuous, especially the crimson variety here figured, to which the name Elfordiana has been given, on account of its having been raised at Elford, as stated below. Some growers appear to consider it as a distinct species, but a comparison with the numerous states of the true Chamædrifolia shows that there is nothing but colour to distinguish it, and that alone does not afford a specific character. Its somewhat larger and less trailing growth is to be met with in many individuals of the original Chamædrifolia, and, indeed, it is the gardener alone and not the botanist that can separate them as marked varieties. Even Tweediana, admitted as a species by botanists, comes so near, also, to Chamædrifolia in some of its numerous forms, that it is sometimes difficult to draw a positive line between them. This is, however, of little consequence to the gardener, whose main object is to produce variety in appearance, and in this point of view the subject of this article is a new and valuable acquisition.

Introduction; Where grown; Culture. Both the varieties here figured, were raised in the garden of the Hon. Col. Howard, of Elford, Staffordshire, from seeds brought from Monte Video by the Hon. Edward Upton, in 1837. We have been favoured with a plant of each by Mr. Buck, the intelligent gardener at Elford. That which we have called Elfordiana has the most brilliant crimson flowers we have met with; and Mr. Buck says is a more abundant flowerer than either of the lately introduced species. The colour of the flowers of the second seedling given in our plate, is clearer unmixed scarlet than the original chamædrifolia, and its foliage much brighter and more abundant. Both these beautiful varieties are possessed by the Messrs. Pope, of the Handsworth Nursery. They require but the usual treatment of the allied species.

### DERIVATION OF THE NAMES.

VERBENA, from the supposition that our common Vervein might be the Verbena or sacred plant of the ancients. Chamædrifolia, with leaves like those of the Veronica Chamædrys.

SYNONYMES.

Verbena Chamædrifolia. Jussieu: Annales du Muscum, v. 7, p. 73. British Flower Garden, 2nd Ser. t. 9. Botanical Magazine, t. 3333. Verbena Melindres. Gillies: Botanical Register, t. 1184.





Hoven chorozemajelia

## HO'VEA CHOROZEMÆFO'LIA.

CHOROZEMA-LEAVED HOVEA.

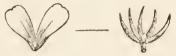
EXOGENÆ.

OR

DICOTYLEDONEÆ.



Natural division
to which
this Plant belongs.



NATURAL ORDER, LEGUMINOSÆ.

OF DECANDOLLE.



Artificial divisions
to which
this Plant belongs,



MONADELPHIA.

DECANDRIA,

OF LINNEUS.

No. 130.

GENUS. Hovea. R. Brown. Calyx bilabiatus, labio superiore lato retuso vel semibifido inferiore minore tripartito. Vexillum explanatum. Alæ oblongæ vexillo breviores, carina obtusa longiores. Stamina omnia convexa vel decimo plus minusve libero, vagina antice vel utrinque fissa. Antheræ alternæ ovatæ medifixæ, alternæ oblongæ adnatæ. Ovarium bi- vél tri- ovulatum. Stylus adscendens, filiformis, glaber. Stigma obtusum, nudum. Legumen subrotundum obliquum ventrieosum. Semina strophiolata. Suffrutices fruticesve Australasiei. Folia alterna, simplicia. Flores axillares purpurei aut violacei.

SPEIES. Hovea chorozemæfolia. *Decandolle*. Foliis ovatis oblongisve sinuato-spinosis mucronatis eoriaeeis glabris, stipulis aeerosis, ealyeibus villosis, leguminibus subsessilibus glabris.

Character of the Genus, Hoven. Calyx two-lipped, the upper lip broad, retuse, or semibifid; the lower much smaller and three-cleft. Standard spreading. Wings oblong, shorter than the standard, longer than the blunt keel. Stamens all united, or the tenth more or less free; the tube split in front, or front and back. Anthers alternately oval and versatile, oblong and adnate. Ovary with two or three ovules. Style ascending, filiform, smooth. Stigma blunt, naked. Pod roundish, oblique, swollen. Seeds with a strophiola.

Description of the Species, Hovea chorozemæfolia. Stem shrubby, erect or ascending, the younger branches hairy. Leaves alternate, nearly sessile, varying from oval to oblong, or even lanceolate, stiff and leathery, with a thickened sinuate margin, more or less irregularly bordered with short prickles; occasionally, however, very nearly entire, smooth on both sides. Flowers borne on short axillary pedicels, sometimes two or three only in each axil, often as many as six or eight, forming a very short raceme. Stipules, Bracts, and Bracteolæ from one to two lines long, smooth and pungent. Calyx hairy, incurved, the upper lip very broad and truncate, slightly emarginate, the outer corners projecting horizontally into a short point; lower divisions narrow, pointed, rather shorter than the upper lip.

COROLLA blue. STAMENS usually completely diadelphous. OVARY perfectly smooth. Pod sessile, or nearly so; broader than it is long, and very oblique, perfectly smooth.

POPULAR AND GEOGRAPHICAL NOTICE. The geographical range of the genus Hovea will shortly be stated under Hovea pungens. This species is one upon which Sweet, in the Flora Australasica, established a genus which he called Plagiolobium; distinguishing it from Hovea by the tenth stamen being entirely free from the others, as well as by the shorter and more oblique pod; but the former of these characters is very uncertain in several species of Hovea, and the obliquity of the pod is more or less observable in all; and if this plant be compared with Hovea Celsi and some others, it will be readily acknowledged that there is nothing in the habit to distinguish it generically. Sweet added, in a note, a second species, which he called Ilicifolia, a name frequently given in our gardens to Hovea chorozemæfolia, but we have never seen either cultivated or wild specimens having the hairy pod mentioned by Sweet, and we presume, therefore, that unless the pod and leaf seen by him were mismatched, this Plagiolobium ilicifolium is not frequent about King George's Sound. The specimens named Hovea ilicifolia by Mr. Cunningham, are all referable to the G. B. present species.

Introduction; Where grown; Culture. The Hovea chorozemæfolia was first raised from seeds, collected by Mr. Bagster at King George's Sound, and flowered in 1827. It has since been transmitted by others, and is not uncommon in our collections. It is of great beauty when well flowered; indeed, the spiny-toothed glabrous foliage of this shrub makes it ornamental, independently of its blossoms. Our drawing was made in March, from a plant belonging to G. Glenney, Esq. of Worton Lodge. Although this plant succeeds best near the glass in an open part of the greenhouse, full exposure to summer showers does it injury. Its soil should be sandy peat and loam. Cuttings strike root slowly in sand; the best plants are raised from seeds

#### DERIVATION OF THE NAMES.

HOVEA, in honour of Anthony Pantaleone Hove, collector for the Kew Gardens, who introduced various Persian and Crimean plants. Chorozemæfolia, with leaves like those of the Chorozema ilicifolia.

#### SYNONYMES.

HOVEA CHOROZEMÆFOLIA. *DECANDOLLE*: Prodromus, v. 2, p. 116. Botanical Register, t. 1524.

Plagiolobium chorozemæfolium. Sweet: Flora Australasica, t. 2.





### HELIAN'THEMUM FORMO'SUM.

#### BEAUTIFUL HELIANTHEMUM.

EXOGENÆ,

OR

DICOTYLEDONE A.



Natural division to which this Plant belongs.



NATURAL ORDER, CISTACEÆ.

THALAMIFLORÆ, OF DECANDOLLE.



Artificial divisions to which this Plant belongs.





POLYANDRIA. MONOGYNIA, OF LINNEUS.

No. 131.

GENUS. Helianthemum. Sepala quinque tribus interioribus æqualibus duobus exterioribus minutis, aut tria subqæualia. Petala quinque, rarius pauca vel nulla, caducissima, æstivatione imbricata. Stamina indefinita. Ovarium triquetrum, pluriovulatum, placentis parietalibus. Stylus nunc subnullus, nunc elongatus, rectus, obliquus, vel basi flexus. Stigma capitatum. Capsula trivalvis, unilocularis vel subtrilocularis. Semina angulata, glabra, albumine farinoso, embryone variis modis curvato, vel circumflexo.

SPECIES. Helianthemum formosum. *Dunal*. Caule fruticoso, ramis tomentoso-villosis-canescentibus, foliis subpetiolatis obovato-lanceolatis tomentoso-villosis, junioribus incanis, pedunculis calycibusque villosis, calycibus trisepalis. *Dunal* in De Candolle Prodromus, v. 1, p. 268.

Character of the Genus, Helianthemum. Sepals five, the three interior equal, the two outer very small, or only three, equal. Petals five, rarely fewer or none, very deciduous, imbricate in æstivation. Stamens indefinite. Ovary three-angled, with many ovules attached to parietal placentæ. Style sometimes nearly none, sometimes elongated, straight, oblique or bent at the base. Stigma capitate. Capsule three-valved, one-celled or nearly three-celled. Seeds angular, smooth, with a farinaceous albumen, and the embryo curled or rolled up in various modes.

Description of the Species, Helianthemum formosum. Shrub erect, much branched, the branches clothed with a whitish down, and long hairs intermixed, the older ones, especially in cultivation, green and less downy. Stipules none. Flowers in irregular cymose racemes at the end of the branches, forming together a kind of panicle. Peduncles one to two inches long, one, two, or three flowered, with the same kind of down as the rest of the plant, but with more of the long hairs, and bearing at each ramification a pair of small deciduous leaf-like bracts. Calyx of three ovate concave sepals, membranous and smooth on the side where they are overlapped by the adjoining one, covered on the back with long soft white hairs,

and short black stiff ones. Corolla nearly as large as in Cistus salvifolius, yellow, each petal broadly obcordate and marked near the base with a large purple spot. Stamens all fertile, very unequal in length. Stigma very large, globular, and nearly sessile. Ovary one-celled, containing many ovules attached to three parietal placentæ which extend into the cavity of the ovary, so as nearly to divide it into three cells.

POPULAR AND GEOGRAPHICAL NOTICE. The beautiful group of Cistaceæ, is nearly confined to Europe and the neighbourhood of the Mediterranean, with a few North American species and one or two South American. The old genus Cistus, of Linnæus, comprehended all the European and some of the American kinds, and was of itself so natural and distinct a one that it would have been hardly necessary to divide it at all; however, as the species increased, and as two different looking groups were observed, to which botanical characters were readily assigned, the small-flowered low-growing kinds were separated from the large gum Cistus under the name of Helianthemum, a genus now universally adopted. The group was worked up with great care in the Prodromus of De Candolle, by a very accurate botanist who lived, as it were, in the midst of them; and by establishing subgenera or sections, all the purposes of scientific analysis were fully answered without interfering farther with the nomenclature. It is only to be regretted that the species were so much multiplied, and still more so in Sweet's monograph, since published. But a much greater calamity has lately been inflicted on the genus by a modern French writer, who unable in this, as in other cases, further to extend the multiplication of species, has most unnecessarily multiplied the genera, and made so sweeping a junction of species as to reduce the 124 of the Prodromus to 27 only, a process which adds little to the scientific reputation of its author, and nothing but confusion to the synonymy of the group.

Introduction; Where grown; Culture. Long since introduced from Portugal; it is rather a tender species, requiring a warm rocky situation, well drained, and some slight protection in winter. With these precautions it will grow about four feet high, and become an object of great beauty. The figure was taken in July from a plant in the Birmingham Horticultural Society's garden, where, as Mr. Cameron informs us, it bears full exposure in mild winters.

DERIVATION OF THE NAMES.

Helianthemum from  $\dot{\eta}\lambda i \sigma g$  sun, and  $\dot{\alpha}\nu\theta\epsilon\mu\sigma\nu$  a flower, so named from the flower expanding in the sun. Formosum beautiful.

SYNONYMES.

CISTUS FORMOSUS. Curtis: Botanieal Magazine. t. 264.

Helianthemum formosum. Dunal: in De Candolle, Prodromus, v. 1, p. 268. Sweet: Cistineæ, t. 50.





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Ver 27 50

# ERI'CA ANDROMEDÆFLO'RA.

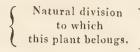
ANDROMEDA-FLOWERED HEATH.

EXOGENÆ,

OR

DICOTYLEDONE A.









NATURAL ORDER, ERICACEÆ.

CALYCIFLORÆ OF DECANDOLLE.





Artificial divisions to which this Plant belongs.





OCTANDRIA, MONOGYNIA, OF LINNEUS.

No. 132.

GENUS. Erica. Linnæus. Calyx æqualis, profunde quadrifidus vel sæpius quadripartitus. Corolla tubulosa, hypocrateriformis, urceolata, campanulata vel globosa, limbo brevi quadrifido erecto recurvo revoluto vel stellato-patente. Stamina octo, rarius sex vel septem, sub disco hypogyno sæpe glanduloso inserta. Filamenta libera, vel rarissime submonadelpha. Antheræ terminales vel laterales, ad insertionem filamenti calcaribus duobus subulatis cristatisve auctæ, vel muticæ. Ovarium quadriloculare vel rarius octoloculare, loculis pluriovulatis. Stigma capitatum vel rarius dilatato-peltatum, integrum vel quadrifidum. Capsula quadrilocularis, rarius octolocularis, loculicide dehiscens. Semina in loculis plurima, placentis axilibus. Frutices Europei vel maxima parte Austro-Africani. Folia verticillata, rarius sparsa. Pedicelli uniflori, axillares vel terminales, bi-tri-bractcati.

SPECIES. Erica andromedæflora. Andrews. Foliis ternis subincurvopatentibus linearibus acutissimis piloso-puberulis, floribus ad apices ramulorum brevissimorum vel in axillis superioribus solitariis ad ternis, secus ramos subracemosis, bracteis remotis parvis, sepalis ovatis sublanceolatisve apice carinatis coloratis, corolla ovato-urceolata calyce longiore, limbo glabro subpatente, antheris cristatis, ovario sessili glabro.

CHARACTER OF THE GENUS, ERICA. CALYX deeply four-cleft, or more frequently divided into four distinct sepals of equal size. Cor-OLLA tubular, salver-shaped, pitcher-shaped, bell-shaped or globular with a short four-cleft limb, which is erect, recurved, rolled back or STAMENS eight, rarely six or seven, inserted under a hypogynous disk, which is frequently glandular. FILAMENTS free or slightly monadelphous. Anthers terminal or lateral, with or without two subulate or crest-shaped appendages at the insertion of Ovary four-celled, rarely eight-celled, each cell with the filaments. STYLE filiform. STIGMA capitate or sometimes broad many ovules. and peltate, entire or four-lobed. CAPSULE four-celled, rarely eightcelled, splitting through the middle of the cells into as many valves. SEEDS numerous in each cell, attached to central placentæ.

Description of the Species, Erica andromedæflora. Stem erect, branching, growing in its native country to the height of about three feet. Leaves three in a whorl, loosely erect or spreading, somewhat incurved, linear, stiff and very sharp in general, but almost blunt in the variety here figured, flat above, convex, with a longitudinal furrow underneath, smooth in the present specimen, but more frequently

more or less hairy or downy. Flowers solitary, in twos or in threes either at the end of the branches, or on extremely short abortive axillary branches, so as to appear lateral. Pedicels about three lines long, bearing about the middle, or lower down, three small lanceolate coloured bracts; the lateral pedicels have also frequently at their base several smaller bracts or abortive leaves. Sepals or divisions of the calyx distinct from each other, broadly lanceolate or ovate, somewhat pointed, smooth, membranous or almost petaloid, coloured with a longitudinal rib, they are usually about two lines long. COROLLA from three to five lines long in the different varieties, half as long again as the calyx, oval pitcher-shaped, the tube inflated, the mouth slightly contracted, the divisions of the limb short, blunt, somewhat spreading or recurved. STAMENS and PISTIL in the corolla. FILA-MENTS flattened. Anthers oblong, black, with two appendages at the base, usually broad and cristate, but in the present variety narrow and nearly entire. Ovary smooth.

POPULAR AND GEOGRAPHICAL NOTICE. The original Erica andromedæflora appears not to be uncommon in the mountains of Hottentots Holland; but the present variety, differing in its blunter and smoother leaves, and in the appendages of the anthers, is possibly the result of hybridization between Erica andromedæflora and another species; but as the former, even in a wild state, is very variable in the size and colour of the flowers, in the foliage, and even in the staminal appendages, it appears safer to class the present one as a mere variety. The species was referred by Mr. Don to his genus Eurystegia, and in the forthcoming volume of De Candolle's Prodromus, is placed in a section for which that name is retained, though with different characters. Like the other species of the same section, it connects in some measure the heaths with a flat spreading limb which constitute the sub-genus Stellanthe, with the large group of small flowered heaths. It is also somewhat anomalous in its inflorescence, having both terminal and lateral flowers.

Introduction; Where grown; Culture. The Erica andromedæflora was sent home, long since, both by Mr. Masson and by Mr. Niven, and has ever since remained in our gardens, where it is better known in the shape of a pale flowered variety, under the name of Erica pomifera. The accompanying plate was taken from a seedling raised, amongst numerous others, by Mr. T. Williams, in the garden of John Willmore, Esq. of Oldford, from Cape seeds.

DERIVATION OF THE NAMES.

ERICA, from a supposition that the Erica of the ancients was a Heath. Andromeda. Medæflora, Andromeda. flowered.

SYNONYME.

ERICA ANDROMEDÆFLORA. Andrews's Heathery, t. 151. Botanical Magazine, t. 1250. Loddiges' Botanical Cabinet, t. 521.

ERICA HOLOSERICEA. Salisbury: Transactions of the Linnæan Society, v. 6, p. 352. ERICA POMIFERA of our Gardens.





### GOLDFUS'SIA GLOMERA'TA.

CLUSTERED GOLDFUSSIA.

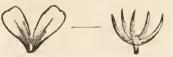
EXOCENÆ,

OR

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, ACANTHACEÆ.

COROLLIFLORÆ,
OF
DECANDOLLE.





Artificial divisions to which this Plant belongs.





DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 155

GENUS. Goldfussia. Nees. Calyx quinquepartitus, subæqualis. Corrolla infundibuliformis, limbo quinquefido obtuso æquali. Stamina quatuor inclusa didynama, humiliora sæpe brevissima reflexa. Antheræ nutantis locelli in connectivo uncinato glanduloso oblique ovati, membranacei. Ovarii loculi biovulati. Stylus simplex; stigma subulatum altero latere crenatum. Capsula sexangularis bivalvis a dissepimento solubilis, loculis inferius dispermis. Semina discoidea, retinaculis subtensa. Frutices foliis penninerviis. Flores pauci in capitulo bibracteolati bracteis deciduis, rarius spicati spica post delapsas bractcas magis elongata. Nees von Esenbeck: in Wallich's Plantæ Asiaticæ Rariores, v. 3, p. 87.

SPECIES. Goldfussia glomerata. (Nees.) Foliis ovato-subrotundis cuspidatis basi obtusis inæqualibus inæqualiter grosse dentato-crenatis multiplinerviis spicisque axillaribus oppositis solitariis globosis brevissime pedunculatis hirsutis, bracteis lanceolatis integerrimis interioribus capitulum superantibus, caule fruticuloso hirsuto. Nees: Ibid. p. 88.

Character of the Genus, Goldfussia. Calyx five-cleft, nearly equal. Corolla funnel-shaped, the limb cut into five nearly equal blunt divisions. Stamens four, didynamous, included in the corolla, the smaller ones often very short, and bent downwards. Anthers nodding, the cells oval, membranous, obliquely inserted on a hooked connectivum. Cells of the ovary containing two ovules each. Style simple by the abortion of one branch, the remaining branch linear, somewhat flattened, with a lateral stigma. Capsule six-angled, two-valved, the valves separable from the dissepiment, each cell having near the base two disk-shaped seeds attached under the retinacula.

Description of the Species, Goldfussia Glomerata. Stem shrubby at the base, much branched. Branches herbaceous, irregularly divaricate, knotty, bearing, especially in the upper part, many stiff spreading hairs. Leaves opposite, stalked, those of each pair very unequal in size, the larger ones three to six inches long, ovate, ending in a long point, irregularly toothed on the margin, more or less contracted at the base, rough with long stiff hairs on the upper side, pale and nearly smooth underneath, the opposite one of each pair usually less than half the size, and broader in proportion. Heads

OF FLOWERS nearly sessile in the axils of the upper leaves, solitary, ovate or globose, few flowered, hairy, the upper heads forming a sort of glomerate broken spike at the extremity of the branches. head consists of a series of opposite bracts, of which the outer ones are short, ovate or lanceolate, and sterile, the inner ones from half an inch to an inch long, lanceolate, blunt, entire or toothed, each having a sessile flower in its axil. Calyx consisting of five linear lanceolate unequal sepals, similar to the inner bract but smaller. Corolla nearly two inches long, of a rich blue, the tube narrow where included in the calyx, then spreading into a long and ample throat, the divisions of the limb short and broad, the whole corolla perfectly smooth inside and out, with the exception of a very few collecting hairs in the throat. FILAMENTS adhering to the corolla and to each other half way up the throat, then free and flattened, the shorter ones scarcely turned down. Anthers oblong, the cells parallel, opening nearly the whole length, with a much smaller connectivum than in Goldfussia anisophylla, from whence it appears the generic character is chiefly taken.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Goldfussia is one of those separated by Nees von Esenbeck from the old heteromorphous assemblage collected under the name of Ruellia. species are all Indian, and appear to be chiefly, if not entirely, moun-The present species from the mountains of Sylhet, may, tain plants. perhaps, be a mere variety of the Goldfussia capitata of Nepal, and of the biceps of the Burmah country; if so, its range is extensive, but the solitary heads of flowers and the hairiness are the same in the cultivated plant as in the wild specimens described by Nees. Another plant of the same genus, the Goldfussia anisophylla (which is the old Ruellia anisophylla of our gardens) has lately been the subject of some very interesting observations of Professor Morren, of Liege, who has detected a remarkable irritability in the upper part of the style, by which alone, when acted upon by insects or other external agents, the stigma is enabled, according to him, to come in contact with the pollen. G. B.

Introduction; Where grown; Culture. This species was first discovered in the mountains of Sylhet, by F. da Silva, one of the collectors employed by Dr. Wallich, and transmitted from Calcutta to his Grace the Duke of Northumberland, in whose stoves at Sion House, it first flowered in November, 1839. To his Grace's condescension we are much indebted for the opportunity of figuring it. It should be planted in a mixture of peat and loam.

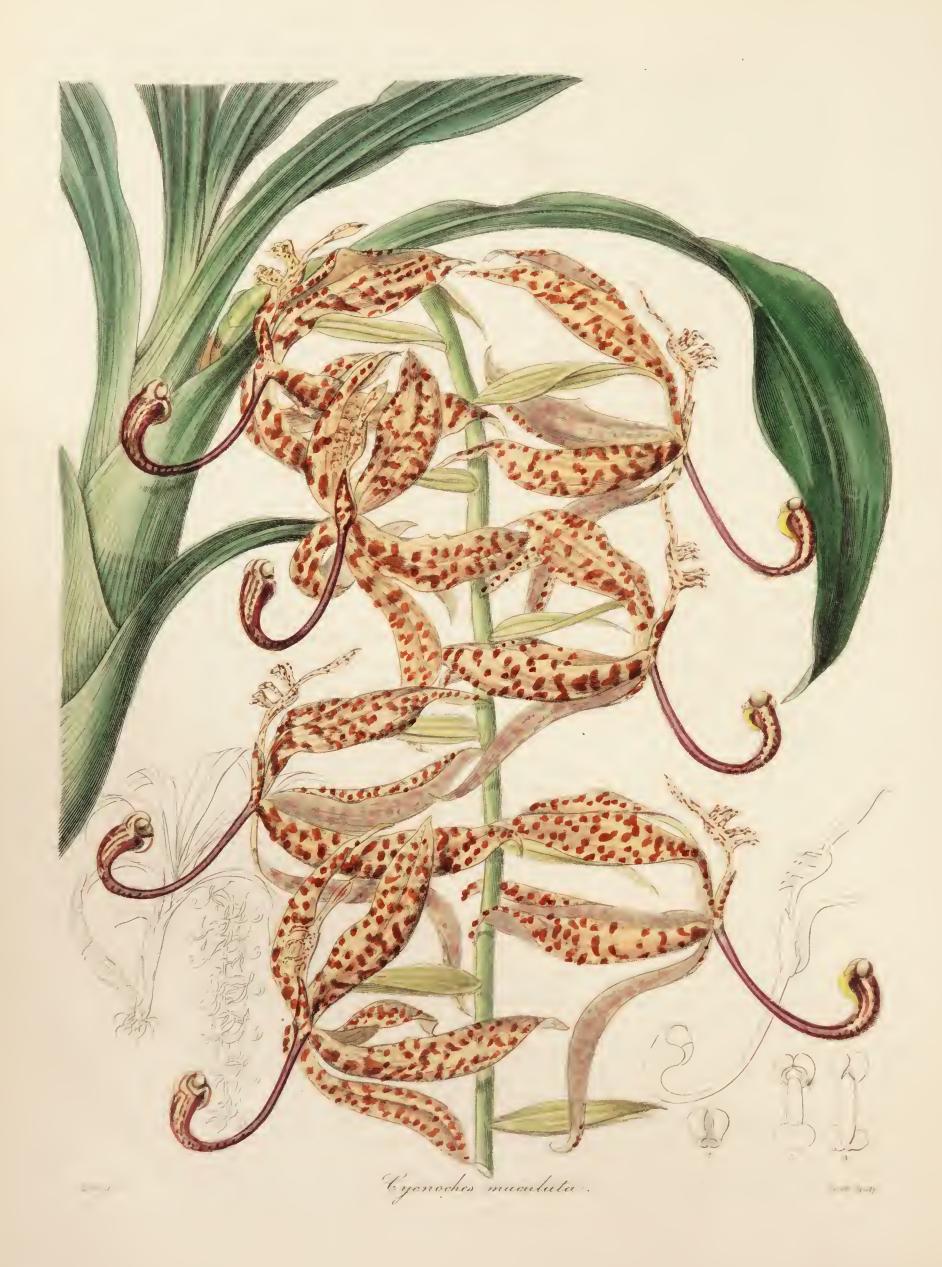
DERIVATION OF THE NAMES.

Goldfussia, in honour of Professor Goldfuss of Bonn, Secretary and Librarian to the Academy Naturæ Curiosorum. Glomerata, heaped, or in heads.

Synonyme.

Goldfussia glomerata. Nees von Esenbeck: in Wallich's Plantæ Asiaticæ Rariores, v. 3, p. 88.





## CYCNO'CHES MACULA'TA.

SPOTTED CYCNOCHES.

ENDOGENÆ.



Natural division to which this Plant belongs. MONOCOTYLEDONEÆ

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.



Artificial divisions to which this Plant belongs.



GENUS. Cycnoches. Lindley. Perigonii explanati foliola exteriora lanceolata, lateralia infra labellum subconnata, supremum angustius, interiora latiora, falcata, decurva. Labellum columnæ continuum, liberum, lanceolatum, ecalcaratum, integerrimum, ungue supra callosum vel appendiculatum. Columna elongata, arcuata, teres, apice clavata, clinandrio utrinque falcato-auriculato. Anthera bilocularis. Pollinia duo, postice sulcata, subpedicellata, caudicula lineari glandulæ grossæ affixa. Herbæ epiphytæ pseudobulbosæ, scapis radicalibus vel axillaribus, floribus racemosis. Endlicher. Genera Plantarum, p. 198.

SPECIES. CYCNOCHES MACULATA. (LINDLEY.) Racemo longissimo multifloro, labello lineari lanceolato, hypochilio lineari, metachilio basi cornuto glandulis utrinque quinque vel sex teretibus elongatis genuflexis pinnatifide marginato, epichilio lanceolato membranaceo acuto margine incurvo. Bot. Reg. 1840, Miscellanies, n. 8.

CHARACTER OF THE GENUS, CYCNOCHES. PERIGON spreading, the outer leaflets or sepals lanceolate, the lateral ones slightly connected below the labellum, the upper one narrower; inner leaflets or petals broader, falcate, and curved downwards. LABELLUM continuous with the column, free, lanceolate, without a spur, entire, with a callosity on the claw, and occasionally with processes on the surface towards the middle. Column elongated, curved, cylindrical, thickened towards the top, with an auricular appendage on each side of the receptacle of the anther. Anther two-celled. Pollen masses two, furrowed on the back, almost clawed, with a linear caudicle attached to a large gland.

DESCRIPTION OF THE SPECIES CYCNOCHES MACULATA. PSEUDO-BULBS elongated, compressed. Flowering stems terminated in a tuft of long linear lanceolate leaves, somewhat wavy on the margin, contracted towards the base above the sheaths by which they clasp the stem, strongly marked with three or five longitudinal nerves. RACEME axillary, hanging downwards, nine to eighteen inches long, with a few squamæ at the base, bearing flowers nearly from the bottom. BRACTS membranous, lanceolate, pointed, about the length of the

foot-stalks. Ovary bent down at right angles to the foot-stalk. FLOWERS three inches in diameter, the five spreading divisions nearly alike in form and colour, being lanceolate, pointed, narrowed at the base, of a pale colour but marked with claret spots, the lateral outer ones more attenuated, and joined together at the base, the upper outer one longer and narrower, the inner ones somewhat twisted at their extremity. LABELLUM narrow, shorter than the other divisions, the lower part or hypochilium linear with an oblong swelling at the base, the central portion or metachilium rather broader, and bearing on the upper surface a dozen protuberances pinnately arranged, blunt and hooked at the end; the labellum terminates in a narrow lanceolate epichilium, the borders turned upwards, the whole more or less marked with claret spots. Column nearly the length of the divisions of the perigon, very much curved inwards and thickened at the extremity, almost entirely of a vinous colour, the clinandrium having on each side an ovate auricle. G.B.

Popular and Geographical Notice. The little genus Cycnoches, remarkable for the graceful swan-like inflection of the column, now consists of four species, natives of that hotbed of Orchidaceæ, the damp tropical regions in the north-east of the South American continent. The new species now figured is chiefly remarkable for the appendages of the labellum, called by some, glands, but the nature and use of which are as puzzling as that of many other of the singularities in the flowers of this extraordinary tribe. It appears also to be one of the finest of the genus, from the great length and number of flowers of the raceme.

Introduction; Where grown; Culture. We are indebted to John Willmore, Esq, of Oldford, Staffordshire, for the specimen of this splendid new Cycnoches, from which our drawing was made. Our readers will appreciate the progress of floriculture when they are told that the very plant now figured, which flowered in the above gentleman's Orchidaceous house, under the assiduous management of Mr. Williams, in December, 1839, was found luxuriating on its native hills of La Guyra, with Cattleya Mossei and numerous other species, in the April preceding, by Mr. Charles Mc Kénzie, and sent home to his spirited employers, the Messrs. Low, of Clapton Nursery, from whom it was obtained by Mr. Willmore. It requires but the usual treatment of its genus—rough peat and potsherds, and moist heat when growing.

Derivation of the Names.

Cycnoches, from κυκνος a swan, the column being compared to a swan's neck.

MACULATA spotted.





# RHODODEN'DRON CAUCA'SICO-ARBO'REUM.

SHEWY HYBRID RHODODENDRON.

OR

EXOGENÆ,

Natural division this plant belongs.

DICOTYLEDONE &.

NATURAL ORDER, ERICACEÆ.

CALYCIFLORÆ, 0FDECANDOLLE.





Artificial divisions to which this Plant belongs.





No. 157.

GENUS. RHODODENDRON. LINNÆUS. CALYX quinque-partitus. COROLLA liypogyna, infundibuliforinis vel subcampanulata, limbo quinquefido vel rarius septemfido, æquali vel subbilabiato. Stamina hypogyna vel imæ corollæ inserta, ejusdem laciniis numero æqualia (5), vel sæpius dupla (10 vel 14); filamenta filiformia, adscendentia. antheræ muticæ, loculis apice poro obliquo dehiscentibus. Ovarium quinque-decem-loculare, loculis multiovulatis. Stylus filiformis; stigma capitatum. Carsula globosa vel oblonga, quinque-decemlocularis, septicide quinque-decemvalvis, columna centrali placentifera libera. Semina plurima, testa laxa, reticulata, scobiformia. Frutices vel arbores, in Europæ et Asiæ mediæ alpibus, in America boreali, in Indiæ terra continenti et insulis spontanei; foliis alternis, integerrimis, semper virentibus vel deciduis, floribus corymbosis, speciosis, luteis, roseis purpureis vel albis. END-LICHER: Genera Plantarum, p. 759.

HYBRID. RHODODENDRON CAUCASICO-ARBOREUM HYBRIDUM pulcherrimum. Foliis ovatis obtusis vel oblongis supra nitidis, umbellis terminalibus, corollis rotatis.

CHARACTER OF THE GENUS, RHODODENDRON. CALYX 5-parted. Corolla hypogynous or subcampanulate, limb 5- rarely 7-cleft, equal or slightly two-lipped. Stamens hypogynous or inserted into the bases of the corolla, equal in number with the segments of the corolla, and in that case 5, or more frequently double (and then 10 or 14); filaments filiform, ascending, anthers not pointed, the cells opening by an oblique pore at the summit. Ovary 5- or 10-celled, cells containing many ovules. Style filiform; stigma capitate. Capsule globose or oblong, 5-10-celled, becoming either 5 or 10-valved by septicidal dehiscence, the column central, free, and placentiferous. SEEDS numerous, testa loose, reticulated, appearing as if sprinkled with particles of dust.

DESCRIPTION OF THE HYBRID, called SHEWY OR HANDSOME RHODODENDRON. SHRUB a foot or two high, stem branched, branches spreading. Leaves alternate, shortly petiolate, coriaceous, persistent, ovate or oblong, neither woolly nor rusty on the under surface, dark green and shining on the upper. GROUPS OF FLOWERS terminal;

pedicels short; calyx small, five-parted. Corolla oblique at the base; tube short; limb spreading, five-lobed, lobes obtuse or slightly emarginate, the inner side a most delicate pink, except where it is marked with deep red spots at the base, and reddish spots on the upper lobes. Stamens ten, unequal in length. Anthers two-celled. Ovary five-celled. Style one. Stigma capitate.

POPULAR AND GEOGRAPHICAL NOTICE. The parents of this hybrid were the Rhododendron arboreum, a native of Nepal, on the mountains of Narainhetty; (the varieties Rhododendron arboreum roseum, and Rhododendron arboreum niveum, are found only on Sheopore, at the head of the valley of Nepal, occupying a station on that mountain 10,000 feet above the level of the sea); and the Rhododendron Caucasicum, which grows on the highest of the Caucasian range of mountains, bordering on the regions of perpetual snow. The production of hybrids has been objected to on the ground that they lead to confusion among species. They are, however, far from being useless, as they illustrate many points in physiology, particularly with regard to the origin and permanency of certain varieties or racesboth human, and in the domestic animals; and also modify the constitution of plants in a very remarkable degree. The magnificent Rhododendron arboreum, though growing at such an elevation in its native land, has been found too delicate to endure our climate in the open air. Various hybrids, produced by applying the pollen of it to some other species, have been found hardy enough, and as the flowers are little less splendid than those of the Tree Rhododendron itself, our woodlands and heaths are now adorned with most magnificent tufts of flowers in the early part of spring. Of this, Lord Carnarvon's seat, at High-Clerc, in Hampshire, is a striking instance—the hybrids which flourish there, however, are produced by fertilizing Rhododendron Catawbiense with Rhododendron arboreum.

Origin; Where grown; Culture. This mule originated with Mr. William Smith, of Norbiton Common Nursery, near Kingston, Surrey. The specimen from which our drawing was made, flowered with Messrs. Rollisson, Tooting. It requires the usual bog-earth soil.

Derivation of the Names. Rhododendron, from ροδον a rose, and δενδρον, a tree. Caucasico-arboreum, compounded of the names of the parents.

SYNONYME.

RHODODENDRON VENUSTUM. Don: in Sweet's Flower Garden, 2nd Series, t. 285.





# LIL'IUM THUNBERGIA'NUM.

THUNBERG'S LILY.

ENDOGENÆ,



Natural division
to which
this Plant belongs.

MONOCOTYLEDONE &.

NATURAL ORDER, LILIACEÆ.

HYPOGYNOSÆ, OF LINDLEY.



- Artificial divisions to which this Plant belongs.



HEXANDRIA, MONOGYNIA, OF LINNEUS.

No. 158.

GENUS. Lilium. Linnæus. Perigonium corollinum, deciduum, hexaphyllum; foliola basi subcohærentia, infundibuliformi-campanulata, apice patentia vel revoluta, intus sulco nectarifero adhærentia. Ovarium triloculare. Ovula plurima, biseriata, horizontalia, anatropa. Stylus terminalis, subclavatus, rectus vel subcurvatus; stigma subtrilobum. Capsula trigona, sexsulca, trilocularis, loculicido-trivalvis. Semina plurima, biseriata, horizontalia, plano-compressa, testa lutescente, subspongiosa, membranaceo-marginata, rhaphe hine per marginem decurrente. Embryo in axi albuminis carnosi rectus vel segmoideus, extremitate radiculari umbilico proxima. Herbæ in Europa et Asia media et septentrionali, in Japonia et in Indiæ montibus, nec non in America boreali indigenæ, bulbosæ; foliis alternis vel subverticillatis, floribus magnis, speciosis, erectis vel nutantibus. Endlicher. Genera Plantarum, p. 141.

SPECIES. LILIUM THUNBERGIANUM. (ROMER et Schultes.) Caule superne villoso, foliis ovato-lanceolatis inferioribus alternis superioribus verticillatis, floribus terminalibus erectis, perianthii laciniis sessilibus patentibus apice revolutis intus glabris staminibus multo longioribus. LINDLEY.

CHARACTER OF THE GENUS, LILIUM. Perigon resembling a corolla, deciduous, of six pieces or folioles, folioles slightly cohering at the base, funnel-shaped or campanulate, spreading at the apex, or curved back, having on the inner surface a nectariferous groove. STAMENS six, slightly adhering to the base of the folioles of the perigon. Ovary three-celled. Ovules numerous, in two rows, horizontal, anatropous. Style terminal, somewhat club-shaped, straight or only slightly curved; stigma somewhat three-lobed. Capsule three-cornered, six-furrowed, three-celled, becoming three-valved by a loculicidal dehiscence. SEEDS numerous, in two rows, horizontal, compressed into a flat form, testa yellowish, somewhat spongy, furnished with a membranaceous margin, along which the raphe runs. Embryo either straight or segmoid in the axis of a fleshy albumen, the radical extremity next the hilum.

DESCRIPTION OF THE SPECIES, LILIUM THUNBERGIANUM. PER-MANENT STEM, consisting of a scaly bulb, which emits a shoot about three feet high, bearing the leaves and flowers, smooth below, clothed

with soft hairs towards the upper part. Leaves alternate and sparse at the lower part, verticillate in whorls of three or four near the top, sessile, broad at the base, ovate lanceolate, smooth, strong nerved, about an inch and half broad. Flowers terminal, erect, of a rich fawn or brick colour. Perigon of six spreading lanceolate segments, smooth, limb spotted towards the base, and nearly tubular, having a double nerve running to the tip. Stamens six, shorter than the segments of the perigon; filaments of unequal length. Anthers two-celled, versatile; pollen dark brown. Ovary remarkably club-shaped, green; style one, springing from the centre of the ovary, brick-coloured, thickened towards the summit; stigma three-lobed.

Popular and Geographical Notice. One of the many magnificent Lilies which Kæmpfer stated as ornamenting Japan, whence Dr. Siebold contrived to bring it in a living state. Thunberg was the first to describe it, and he bestowed several names upon it, referring it to Lilium bulbiferum, to which it could not belong, having no bulbs in the axils of the leaves; then to Lilium Philadelphicum.

It does not possess the agreeable odour of the white lilies, indeed it is a circumstance worthy of notice, that orange or brown flowers rarely have a pleasant aroma, as may be remarked in the common orange lily, and yet more in the stapelias.

Introduction; Where grown; Culture. Introduced from Belgium to England. Our drawing was made from a plant at the Messrs. Rollisson's, at Tooting. It is kept in a frame, but may possibly prove hardy, flowering from July to September. "After flowering, the bulbs should be fresh potted or planted in a pit, well protected from wet, late in autumn or very early in the spring, in a mixture of sandy peat, loam, and a small portion of rotted manure or leaf mould. The soil in the pots or pit in which the fresh bulbs are planted should be kept dry until they begin to grow, when water should be given, but rather sparingly at first. The plant may be increased freely from every scale of which the old bulb is composed. These, if separated, potted in sand, and placed in a gentle heat, will soon make plants, but they will not flower for two or three years." (Lindley.)

DERIVATION OF THE NAMES.

LILIUM, from the Celtie LI, white. Thunbergianum, to signify that this was the plant of Thunberg.

Synonymes.

LILIUM THUNBERGIANUM. Romer et Schultes, Systema Vegetabilium, VI. 415.

Lindley: Botanical Register, 1839, t. 38.





## COLE'US BARBA'TUS.

BEARDED COLEUS.

EXOGENÆ

OR

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, LABIATÆ.

OROLLIFLORÆ,
OF
DECANDOLLE.





Artificial divisions to which this Plant belongs.





DIDYNAMIA, GYMNOSPERMIA, OF LINNEUS.

No. 159,

GENUS. Coleus. Loureiro, Calyx ovato-campanulatus, quinquedentatus, dente supremo ovato-membranaceo, inferioribus angustioribus, omnibus vel infimis acutis. Corolla tubo exserto defracto, limbi labio superiore brevi trivel quadri-fido, inferiore integro elongato concavo sæpius cymbiformi, genitalia includente. Stamina quatuor, declinata. Filamenta edentula, basi in tubum stylum vaginantem connata. Antheræ ovato-reniformes, loculis confluentibus. Stylus apice subulatus, bifidus, stigmatibus subterminalibus. Carpella subrotundo-compressa, lævia. Herbæ rarius suffrutices. Verticillastri sexflori vel multiflori, nunc densissimi, nunc cymæformes laxi. Folia floralia bracteæformia, per anthesin sæpius decidua.

SPECIES. Coleus barbatus (Bentham) caule basi fruticoso adscendente tomentoso-hispido, foliis petiolatis ovatis crenatis basi angustatis molliter tomentosis, junioribus hispidis, floralibus membranaceis lato-ovatis acuminatis in apice racemorum comosis per anthesin deciduis, racemis simplicibus, verticillastris sex ad decem distantibus calycibus fructiferis deflexis hispidis, fauce intus villosa, dente supremo ovato subdecurrente, inferioribus lanceolatis acutis subæqualibus, corollæ labio inferiore stipitato maximo cymbiformi.

Character of the Genus, Coleus. Calyx ovate bell-shaped, with five teeth, of which the upper one is ovate membranous, the four lower narrower, all four, or at least the two lowest, pointed. Corolla with a tube projecting beyond the calyx, suddenly bent down; the limb two-lipped, the upper lip short and three- or four-cleft, the lower one entire, stalked, long, concave or boat-shaped. Stamens four, didynamous. Filaments without teeth, joined together at the base in a tube inclosing the style; anthers ovate reniform; the cells confluent. Style subulate, shortly bifid; the stigmas nearly terminal. Carpels roundish, flattened, smooth.

Description of the Species, Coleus barbatus. Stem perennial or shrubby at the base, branched and straggling below the flowering branches, ascending or erect, two or three feet high, more or less covered with stiff spreading articulate hairs. Leaves opposite, stalked ovate, blunt, crenated, narrowed at the base, rather thick and rough,

usually downy and more or less covered with stiff appressed hairs, of a light green when fresh, whitish when dry, two or three inches in length. Racemes terminal, simple, often attaining a foot in length. consisting of a series of false whorls or verticillasters of six to ten flowers each, and placed at intervals of from half an inch to an inch or more. FLORAL LEAVES resembling bracts, sessile, broadly ovate with a long point, entire, concave, membranous, smooth, of a light green, longer than the calyx, and forming a tuft at the top of the young spike, but always falling off before the flowers expand. True BRACTS none. Pedicels erect, about two lines long, simple, oneflowered. Calyx resembling those of the Basil, nodding, bell-shaped, more or less violet coloured and covered with stiff hairs, the upper division broad, ovate, and pointed, the four lower ones lanceolate, pointed, and nearly equal to each other. Corolla of a violet blue, often more or less mixed with white; the tube slightly gibbous on the under side at the base, bent downwards at a right angle where it leaves the calyx, and dilated into a short broad throat; the upper lip broad, short, bent back, emarginate or with four very short obtuse teeth, marked in front with an orange spot; the lower lip nearly horizontal, large, boat-shaped, pointed and entire. Style shortly and equally bifid at the extremity. CARPELS very smooth.

POPULAR AND GEOGRAPHICAL NOTICE. This plant belongs to a very numerous group among the Labiatæ, natives of the hotter part of the old world, with a very few species scattered over tropical America, and which, as far as were known in the days of Linneus, were collected by that great master under the name of Ocimum; but as the ten or eleven species known to him have gradually increased to above a hundred and sixty, various divisions of the group have been proposed, and they now constitute twelve genera, which appear to be better characterized and more natural than many of our old European genera of Labiatæ. Indeed, were the slight modifications derived from the calyx and bracts, which have alone served as the basis of many of the Linnean characters, to be applied to the Asiatic and African Ocimoideæ, the present number of their genera would be again doubled, at the least. Coleus, to which the present species belongs, contains above thirty species; some of them much resembling, it is true, in habit, the Plectranthi, with which they have been sometimes associated, but all of them distinguished by so remarkable a character amongst Labiatæ, the monadelphous stamens, that it appeared impossible not to give it a generic value. Indeed, under the Linnean arrangement, were the

principles upon which the value of that system is supposed to depend, its artificial preciseness, to be acted upon without regard to natural affinities, the Colei should be removed from the Class of Didynamia to be placed under Monadelphia. Modifications in the calyx and inflorescence furnish three distinct divisions or sections in the genus to which the names of Calceolus, Aromaria and Solenostemon have been given, and the latter has again been subdivided into three others on the same principle; the species here figured belongs to the section Calceolus, having the apparently verticillate inflorescence and reflexed calyx of Ocimum.

The whole tribe of Ocimoideæ, including, besides the above-mentioned plants, the extensive American genus Hyptis, with some small groups allied to it, and the European Lavender, is, perhaps, the most marked amongst Labiatæ by the direction of the stamens, which are declinate, or bent downwards upon the lower lip of the corolla, instead of ascending against the upper lip, as in most other Labiatæ. It was this circumstance that induced Linneus and his immediate followers to suppose the flower to be resupinate, and that what appeared to be the lower lip was, in fact, the upper one; but, when once the study of natural affinities induced botanists to consider more closely the real nature of the different organs of plants, the error was detected. It was long since pointed out by Poiteau, and fully explained by Brown, and yet there remain determined followers of Linneus, who, because he made great strides in the advancement of the science, think that no one could, after him, go still farther; and in this respect as in so many others, still persist in copying his characters, as the best that human ingenuity can invent.

The Colei are spread over the tropical regions of the old world, not one of them having yet been found in America. One species, belonging to the section Solenostemon has been gathered in Western Africa, the remainder of that section are natives of the warmer parts of India, and of the islands of the Indian ocean, especially of the Indian archipelago, where there are probably numerous species yet unknown. Aromaria includes only one species, the Coleus aromaticus, a native of the Indian peninsula. The Calceoli are mountain plants from the Arabian and Indian peninsula, as well as from the Himalayas. Coleus barbatus is not uncommon amongst rocks at a moderate elevation, in Nepal, Kamaon, Mysore, as well as the peninsula.

The Coleus aromaticus, mentioned above, is much cultivated in India for the strong aromatic smell of its leaves, which they preserve in our stoves, where the plant is frequently to be met with, and deserves attention on that account, although its flowers are not showy. They are, however, interesting as being usually in a peculiar state of monstrosity, which shows what is the normal structural type of the Labiatæ. It has long been admitted that, as in the greater

number of Monopetalæ, the flower of Labiatæ is formed on a pentamerous type, that is to say, that if the irregular flower in this order were made regular, five would be the number of parts in each floral verticillum. In the calvx and corolla this number is evident in most species, and only rarely reduced to four. In the stamina four is the usual number, but the frequent accidental presence of the fifth, leaves no doubt as to their normal number and position; but with regard to the ovarium, some discussion has arisen as to the degree of reduction which has taken place. It is well known that the fruit consists of four parts, which were once called naked seeds, and are now designated as carpels, and many have supposed each of these parts to be really a distinct carpel, in which the reduction here would be no greater than in the case of the stamina; and the fact of there being always four divisions to the style in Cleonia, without any addition to the number of carpels, seemed to confirm this view. Further consideration, however, induced many botanists to contend that the supposed carpels were, in fact, but semi-carpels; and that the fruit really consisted of two bipartite carpels, corresponding to the two branches of the style. For in other orders where the style is divided, the divisions are usually equal to, or greater than, not less than the number of carpellary leaves; and the close analogy between Labiatæ and Verbenaceæ, where there are certainly but two, would be destroyed, were the Labiatæ supposed to have four carpels. This position receives a strong confirmation from the flowers of the Coleus aromaticus, in which the deficient parts of the ovary are often more or less developed; and where, in the most perfect cases, there are five divisions to the style, to each of which there correspond two lobes of the ovary, making, in the whole, ten of these semi-carpels. A similar monstrosity, though to a less degree, may sometimes be seen in cultivated specimens of Sideritis Canariensis.

G.B

Introduction; Where Grown; Culture, This rare plant was received from India, in 1838, by his Grace the Duke of Northumberland, to whose condescension we are indebted for the opportunity of figuring it. In a botanical point of view it is exceedingly interesting, and not unworthy of attention by the mere florist. Of the mode of culture adopted, we have no specific information.

DERIVATION OF THE NAMES.

Coleus from κολεος, a sheath, the staminal tube forming a sheath round the style. Barbatus, bearded.

SYNONYMES.

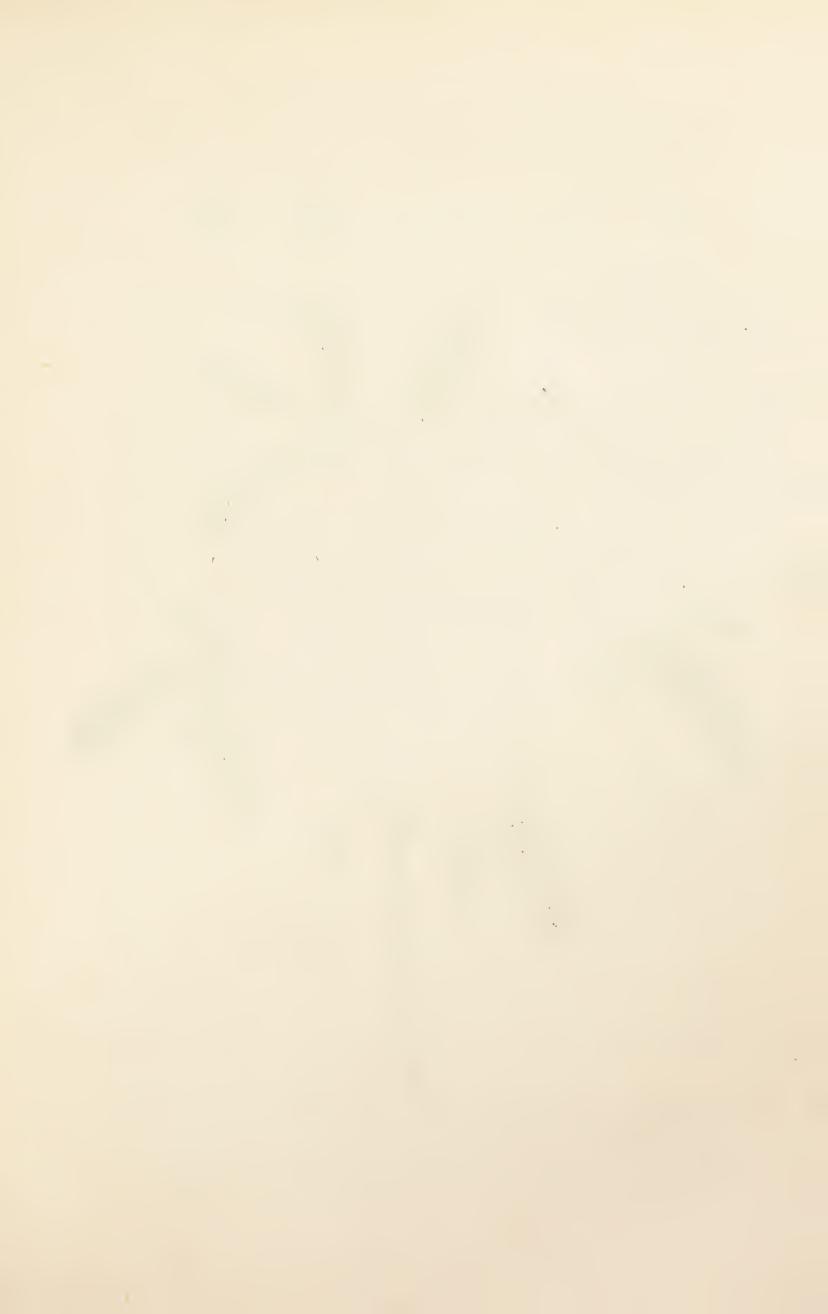
PLECTRANTHUS BARBATUS. Andrews's Botanist's Repository, t. 594.

PLECTRANTHUS COMOSUS. Botanical Magazine, t. 2318.

Ocimum Asperum. Roth. Novæ Plantarum Species, p. 263.

PLECTRANTHUS ASPER. Sprengel: Systema, v. 2, p. 690.

Coleus Barbatus. Bentham: Labiatarum Genera et Species, p. 49, omitting the Synonymes of Forskol and Vahl.





Rhododendion Indicum

# RHODODEN'DRON IN'DICUM.

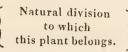
BRICK-COLOURED INDIAN RHODODENDRON, OR AZALEA.

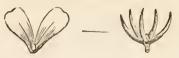
EXOGENÆ,



OR

DICOTYLEDONE A.





NATURAL ORDER, ERICACEÆ.

CALYCIFLORÆ, DECANDOLLE.





Artificial divisions to which this Plant belongs.





No. 160.

GENUS. RHODODENDRON. LINNEUS. CALYX quinque-partitus. COROLLA hypogyna, vel infundibuliformis vel subcampanulata, limbo quinquefido vel rarius septemfido, æquali, vel sub-bilabiato. Stamina hypogyna vel imæ corollæ inserta, ejusdem laciniis numero æqualia (5), vel sæpius duplo (10) vel (14); filamenta filiformia, adscendentia; antheræ muticæ, loculis apice poro obliquo dehiscentibus. Ovarium quinque-decemloculare, loculis multiovulatis. STYLUS filiformis. STIGMA capitatum. CAPSULA globosa vel oblonga, quinquedecemlocularis, septicide quinque-decemvalvis, columna centrali placentifera Semina plurima, testa laxa, reticulata, scobiformia. Frutices vel arbores, in Europæ et Asiæ mediæ alpibus, in America boreali, in Indiæ terra continenti et insulis spontanei; foliis alternis, integerrimis, semper virentibus vel deciduis, floribus corymbosis speciosis, luteis, roseis purpureis vel albis. ENDLICHER: Genera Plantarum, p. 759.

SPECIES. RHODODENDRON INDICUM, (LINNEUS) VARIETAS, LATERITIUM. (Azalea Indica, var. lateritia). Foliis spathulatis-obtusis, floribus pentandris læte lateritiis, corollis tubuloso-campanulatis.

CHARACTER OF THE GENUS, RHODODENDRON. CALYX five-parted. Corolla hypogynous or subcampanulate, limb five- rarely sevencleft, equal or slightly two-lipped. Stamens hypogynous or inserted into the base of the corolla, equal in number with the segments of the corolla, and in that case five, or more frequently double, and then ten, or fourteen; filaments filiform, ascending, anthers not pointed, the cells opening by an oblique pore at the summit. Ovary five- or tencelled, cells containing many ovules. Style filiform; stigma capitate. Capsule globose or oblong, five- or ten-celled, becoming either fiveor ten-valved, by a septicidal dehiscence; the column central, free, and placentiferous. Seeds numerous; testa loose, reticulated, appearing as if sprinkled with particles of dust.

DESCRIPTION OF THE SPECIES, RHODODENDRON INDICUM, VARIETY BRICK-COLOURED. A SHRUB, two or three feet high, branched, branches numerous, giving a very bushy appearance to the plant. Leaves alternate, almost sessile, oblong or spathulate, alternate at the base, dark

green, very hairy, thin. Flowers terminal, solitary, or rarely twin. Calyx small, five-toothed. Corolla large, shewy, of a brick-red colour towards the base, but lighter towards the margin; tube short; limb spreading, five-lobed, lobes blunt, or slightly emarginate. Stamens five, of nearly equal length; filaments slender; anthers two-celled. Ovary globose; style one, slender, longer than the stamens; stigma capitate.

Popular and Geographical Notice. The genus Azalea has been merged by Professor Don in that of Rhododendron, and every one who studies the subject must acquiesce in the propriety of this step. No difference of sufficient value to constitute a generic distinction existed between them, for the mere circumstance of the stamens being five in the one (Azalea) and ten in the other (Rhododendron), is inadequate to justify their separation. The species formerly referred to Azalea have deciduous leaves, while the Rhododendrons have evergreen ones; but these characters are only useful for sectional distinctions. As at present constituted, the genus contains all those species which belong to the sections Anthodendron (Reichenbach), Rhodora (Linneus), Eurhododendron, Booram, and Hymenanthes (Blume), which last has fourteen stamens. The numerous species occur in the Alpine regions of Europe and central Asia, in North America, and on the continent and islands of India. Our present species is a native of China, and is regarded by Mr. Reeves as a mere sport from the Rhododendron (Azalea) Indicum variegatum, an opinion which the appearance of the foliage strongly confirms. It most probably grows in the southern and warmer parts of China, as it flourishes best when kept warm. The lofty site of several varieties of Rhododendron is mentioned in the preceding article, and their beauty in such places must excite the admiration of the traveller.

Introduction; Where Grown; Culture. Introduced in 1823, by Mr. M° Killigan. The plant from which the drawing was taken flowered in the collection of Messrs. Rollisson of Tooting. It requires bog earth, and to be kept in the conservatory, but some time previous to flowering it may be advantageously put into a bark stove.

DERIVATION OF THE NAMES.

Rhododendron, as in the preceding plant. (Azalea) is from 'Αζαλεος, dry, alluding to the soil where it grew. Indicum, Indian; Lateritium from Later, a brick, in reference to the colour.

SYNONYME.

Azalea indica, var. Lateritia. Lindley: Botanical Register, t. 1700.





Duhlu sapigera

# DAH'LIA SCAPIG'ERA.

SCAPE-BEARING DAHLIA.

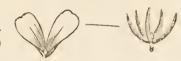
EXOGENEÆ,

 $_{
m OR}$ 

DICOTYLEDONE Æ.







NATURAL ORDER, COMPOSITÆ.

CALYCIFLORÆ, OF DECANDOLLE.





Artificial divisions to which this Plant belongs.





SYNGENESIA, SUPERFLUA, OF LINNEUS.

No. 161.

GENUS. Dahlia. Cavanilles. Capitulum radiatum, floribus radii ligulatis fœmineis neutrisve, disci tubulosis quinquedentatis. Involucrum duplex, exterius squamis foliaceis uniscrialibus circiter quinque patulis reflexisve, interius squamis octo ad sedecim subbiserialibus longis apice membranaccis, basi crassiusculis, et inter se coalitis. Receptaculum planum paleaceum paleis membranaceis oblongis indivisis. Styli rami erecti vel subincurvi, crassi, extus piliferi. Antheræ ecaudatæ, appendiculatæ. Achænium oblongo-obovatum obcompressum epapposum apice obsolete bicorne. Herbæ Mexicanæ. Folia opposita pinnatipartita vel bipinnatipartita. Rami apice monovel oligocephali. Capitula heterochroma, nempe disco luteo, radio purpureo, rosco albo aut flavescente. Decandolle. Prodromus, v. 5 p. 494.

SPECIES. Dahlia scapigera. Link et Otto. Caule humili basi ramoso ramis adscendentibus scapiformibus paucifoliatis unifloris vel, subtrifloris foliis pinnatipartitis, ligulis fœmineis fertitibus.

Character of the Genus, Dahlia. Flowerhead radiate, the florets of the ray ligulate, female or neuter, those of the disk hermaphrodite, tubular, usually 5-toothed. Involucre double, the external consisting of about five spreading or recurved leaflets, the internal of from eight to sixteen erect long leaflets, arranged imperfectly in two rows, membranous at the top, thick at the base and connected together. Receptacle flat, with oblong entire membranous scales. Branches of the style erect or slightly curved, thick, and bearing hairs outside. Anthers without tails, but with appendages at the top. Achenium oblong, ovate, compressed at the top, without a pappus but obscurely two-horned at the top.

Description of the Species, Dahlia Scapigera. Roots fasciculate, some of them cylindrical and fibrous, others swelling into oblong tubers. Stem short, procumbent or even trailing at the base, dividing out immediately into a number of nearly erect branches, nearly smooth as well as the whole plant, some of them one or two feet high, bearing a single pair of leaves, and two or three flowers, others reduced to a one-flowered peduncle. Leaves opposite, pinnately divided, the com-

REFERENCE TO THE DISSECTIONS.

<sup>1.</sup> Style of a floret of the disk. 2, Involuere. 3, The same cut open showing the stamina. 4, a floret of the disk. 5, A floret of the ray.

mon stalk four to eight inches long, furrowed on the upper side, and slightly dilated at the base so as to clasp the stem. Leaflets five or seven, rarely more, oval, blunt, irregularly and coarsely toothed, the lateral ones opposite to each other, usually very unequally contracted at the base and the pairs remote from each other, the terminal one rather larger, equal at the base and gradually contracted, and generally very near to the last pair. PEDUNCLES six or eight inches, or even more in length, smooth, naked or bearing a single linear leaflet. FLOWER HEADS nodding as in the rest of the genus, about two inches and a half in diameter. Involucre smooth, the external leaflets oval lanceolate, blunt, stiff, slightly spreading, five in number; inner leaflets always eight in the flowers hitherto seen, twice as long as the external ones, oval-oblong, membranous and blunt, thickened and connected together at the base. Florers of the ray, as many as the inner leaflets of the involucre, white, oval oblong, with two to five minute teeth, female and fertile. PALEÆ of the receptacle oval, oblong, membranous, half the length of the involucre. FLORETS of the disk, yel-STYLE projecting beyond the floret, the branches straight, diverging, thick, broad, and conspicuously hairy.

Popular and Geographical Notice. As the Dahlia excelsa, figured in the second volume of the Botanist, No. 88, is the giant of the genus, so may the present species be considered as the dwarf, but far from being despicable on that account, it is likely that it may prove to be a much more useful acquisition than its gigantic unwieldy congener. Reduction in the stature has, indeed, been one of the great desiderate amongst Dahlia growers, where the object is to embellish a flower garden, rather than to decorate a drawing room, or to display in an exhibition tent; and as the Dahlia scapigera seems already to show a disposition to sport, it is probable that from its great affinity to the common Dahlia variabilis it may be made to cross with that species, and produce a number of valuable dwarf hybrid races.

The Dahlia scapigera, like the rest of the genus, is a native of Mexico, although the precise locality does not appear to have been recorded G. B.

Introduction; Where grown; Culture. This new species was received into the Birmingham Horticultural Society's Garden, from the Berlin Royal Garden, in 1838. It is a very distinct species, not exceeding two feet in height, and comes into flower earlier than the common species—a quality which is desirable. It requires exactly the same treatment as our well-known Dahlia.

DERIVATION OF THE NAMES.

Dahlia, in honour of Professor Dahl, of Copenhagen. Scapigera, scape-bearing.

SYNONYMES.

Dahlia scapigera. Link et Otto. Knowles Floral Cabinet, t. 118.





'fill de'

Erron corcinea

Vevitt ven7p

### ERI'CA COCCIN'EA.

Var. echiiflora.

# ECHIUM-FLOWERED SCARLET HEATH.

EXOGENÆ,

OR

DICOTYLEDONE A.



{ Natural division to which this Plant belongs. }



NATURAL ORDER, ERICACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.





Artificial divisions to which this Plant belongs.





OCTANDRIA, MONOGYNIA, OF LINNEUS.

No. 162.

GENUS. ERICA. Calyx æqualis profunde quadrifidus vel LINNÆUS. sæpius quadripartitus. Corolla tubulosa hypocrateriformis urceolata campanulata vel globosa, limbo brevi quadrifido erecto recurvo revoluto vel stellato patente. Stamina octo rarius sex vel septem sub disco hypogyno sæpe gland-. uloso inserta. Filamenta libera vel rarissime submonadelpha. Antheræ terminales vel laterales ad insertonem filamenti calcaribus duobus subulatis cristatisve auctæ vel muticæ. Ovarium quadriloculare vel rarius octoloculare loculis pluriovulatis. Stigma capitatum vel rarius dilatato-peltatum, integrum vel quadrifidum. Capsula quadrilocularis rarius octolocularis, loculicide dehis-Semina in loculis plurima, placentis axilibus. Frutices Europæi vel maxima parte Austro-Africani. Folia verticillata rarius sparsa. Pedicelli uniflori axillares vel terminales bi-tribracteati.

SPECIES. ERICA COCCINEA, var. ECHIIFLORA. FOLIIS quadri-senis, pluribusve linearibus patentibus incurvis latiusculis rigidis, floribus dense verticillatospicatis, sepalis ovato-lanceolatis obtuse acuminatis viscido-puberulis margine glanduloso-ciliatis subnudisve, corollis clavato-tubulosis subincurvis leviter costatis viscidulis glabriusculis calyce vix triplo longioribus, fauce subcontracta, antheris inclusis muticis, ovario villoso.

Character of the Genus, Erica. Calyx deeply four-cleft, or more frequently divided into four distinct sepals of equal size. Corolla tubular, salver-shaped, pitcher-shaped, bell-shaped or globular, with a short 4-cleft limb which is erect, recurved, rolled back or speading. Stamens eight, rarely six or seven, inserted under a hypogynous disk which is frequently glandular. Filaments free or slightly monadelphous. Anthers terminal or lateral, with or without two subulate, or crest-shaped appendages at the insertion of the filaments. Ovary, four-celled, rarely eight-celled, each cell with many ovules. Style filiform. Stigma capitate, or sometimes broad and peltate, entire, or four-lobed. Capsule four, rarely eight-celled, splitting through the middle of the cells into as many valves. Seeds numerous in each cell, attached to central placentæ.

DESCRIPTION OF THE SPECIES ERICA COCCINEA, ECHIUM FLOW-ERED VARIETY. STEM erect, with long twiggy branches, covered with a very short whitish down. Leaves spreading, usually six in a whorl, linear, somewhat sharp, smooth, or with a little roughness on the edges, convex and furrowed underneath, four or five lines long, Flowers axillary, crowded together in a short spike below the tops of the branches. Peduncles short, slightly downy and clammy. Bracts lanceolate, just below the calyx. Sepals ovate-lanceolate, pointed, green, clammy, with a few short hairs, about two and a half lines long. Corolla red, seven or eight lines long, tubular, slightly incurved and swollen in the middle, contracted at the base, and also a little at the mouth, clammy and somewhat ribbed, the limb erect or recurved, with short broad blunt divisions. Stamens included in the corolla. Filaments filiform. Anthers oval, nearly terminal, without appendages. Ovary covered with hairs.

Popular and Geographical Notice. This is one of those varieties of which a considerable number exist in our gardens, all coming very near to the true Erica coccinea, but with a shorter corolla of a colour more of a purple or a pink red than scarlet and only differing from each other in slight shades of colour, and in the more or less open throat of the corolla, and as these are individual differences only perceptible to the eye of the gardener, the botanist considers them all as one short-flowered variety of the coccinea. It is probable that some of them may be hybrids, and in particular the individual here figured, yet it is impossible to find any positive marks to distinguish it from the wild short flowered coccinea, a species readily known amongst others of the same group, by the broad green calyx not keeled.

The tubular flowered Heaths with lateral flowers form two groups, of which the one, called by Salisbury Callibotrys has large petaloid or scariose sepals, and anthers usually awned; and the other, Pleuro-callis of Salisbury, to which Erica coccinea belongs, is known by pointed sepals not scariose, and anthers always without appendages. This group or section bears also a remarkable affinity to that called Hermes by Salisbury, which differs only in the shortness of its flowers a character that removes it form among the tubular heaths. G. B.

Introduction; Where grown; Culture. The individual variety here figured was raised from Cape seeds, in the collection of John Willmore, Esq. of Oldford. In culture, sandy peat is indispensable.

DERIVATION OF THE NAMES.

ERICA from the supposition that the Erica of the ancients was a Heath. Coccurea, searlet.

SYNONYMES.

ERICA ECHIIFLORA. Andrews's Heathery, t. 260. Loddiges: Botanical Cabinet, t. 364.

ERICA GLANDULOSA. Wendland: Ericæ fasc. 13, with a figure, but not of Thunberg.





Mille del

Erica Lambertiana.

Nevett Sec. 17

# ERI'CA LAMBERTIA'NA.

Var. Rubescens: MR. LAMBERT'S HYBRID HEATH.

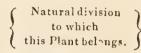
Reddish variety.

EXOGENÆ,

OR

DICOTYLEDONEA.







NATURAL ORDER, ERICACEÆ.

CALYCIFLORE, OF DECANDOLLE.





Artificial divisions





No. 163.

GENUS. ERICA. LINNEUS. CALYX æqualis profunde quadrifidus vel sæpius quadripartitus. Corolla tubulosa, hypocrateriformis urceolata campanulata vel globosa, limbo brevi quadrifido erecto recurvo, revoluto vel stellato-Stamina octo rarius sex vel septem, sub disco hypogyno sæpe glanduloso inserta. Filamenta libera vel rarissimo submonadelpha. Antheræ terminales vel laterales, ad insertionem filamenti calcaribus duobus subulatis cristatisve auctæ vel muticæ. Ovarium quadriloculare vel rarius octoloculare loculis pluriovulatis. Stigma capitatum vel rarius dilatato-integrum vel quadrifidum. Capsula quadrilocularis rarius octolocularis loculicide dehiscens. Semina in loculis plurima, placentis axilibus. Frutices Europææ vel maxima parte Austro-Africanæ. Folia verticillata, rarius sparsa. Pedicelli uniflori axillares vel terminales bi-tribracteati.

HYBRIDA. ERICA LAMBERTIANA. (ANDREWS.) FOLIIS 3-4-nis subreflexopatentibus linearibus obtusis rigidis glabris, floribus irregulariter axillaribus terminalibusve pedicellatis, bractiis linearibus remotis, sepalis lato-lanccolatis obtusis, corolla inflata urceolata viscosa, antheris cristatis inclusis, ovario glabro.

CHARACTER OF THE GENUS, ERICA. CALYX deeply four-cleft, or more frequently divided into four distinct sepals of equal size. Cor-OLLA tubular, salvershaped, pitcher-shaped, bell-shaped, or globular, with a short four-cleft limb, which is erect, recurved, rolled back, or STAMENS eight, rarely six or seven, inserted under a hypogynous disk which is usually glandular. FILAMENTS free or slightly monadelphous. Anthers terminal or lateral, with or without two subulate or crest-shaped appendages at the insertion of the filaments. Ovary four-celled, rarely eight-celled, each cell with many ovules. STYLE filiform. STIGMA capitate, or sometimes broad or peltate, entire or four-lobed. Capsule four, or rarely eight-celled, splitting through the middle of the cells into as many valves. SEEDS numerous in each cell, attached to central placentæ.

DESCRIPTION OF MR. LAMBERT'S HYBRID HEATH. two or three feet high, stiff and branching. Leaves three, or sometimes four in a whorl, spreading or reflexed, oblong, linear, blunt, thick, flat above, marked underneath with a broad furrow, smooth, the margin occasionally somewhat cartilaginous and minutely toothed. Peduncles solitary, or two or three together at the end of short lateral branches, so as frequently to appear axillary, three to six lines long, with three coloured bracts at some distance from the calyx. Sepals broad, lanceolate, obtuse, coloured, slightly keeled at the top, clammy, about one third the length of the corolla. Corolla about four lines long, thick and clammy, varying from pale red to nearly white, the tube nearly globular, the limb short, erect, with four roundish very blunt divisions. Stamens and Pistil included in the flower. Filaments flattened. Anthers oblong, with two appendages, lance-olate, and toothed or hairy at the base, ending in a fine point. Ovary smooth.

POPULAR AND GEOGRAPHICAL NOTICE. Our great Heath collectors, Mr. Niven and Mr. T. Masson, appear to have been the first to dedicate a species to Mr. Lambert, then already known as a great patron of botany, and an intimate friend of Mr. Hibbert, on whose account Mr. Niven's expedition was undertaken. The original herbaria, however, of these collectors, show that they applied this name to several species which have been published under other names and more especially to the Erica vernix and physodes, and the name of Lambertiana has been transferred by gardeners to a set of hybrids raised from physodes and some allied species; and although the plant, here figured, differs slightly in the colour of the flower, and in the breadth of the appendages to the anthers, from the ordinary Lambertiana, yet as the origin is evidently the same, and as these slight differences always occur between any two individual hybrids raised from the same parents, it would be useless to coin a new name. Like a great proportion of hybrid heaths it is more ornamental, bearing a larger number of flowers than its parent, though probably requiring rather more care in cultivation. Like our last subject, this was raised at Oldford, in 1835, under the attentive management of Mr. T. Williams. G. B.

DERIVATION OF THE NAMES.

ERICA, from the supposition that the Erica of the ancients was a Heath. Lambertiana, in honour of A. B. Lambert, Esq. Vice President of the Linnean Society.

SYNONYMES.

ERICA LAMBERTIANA. Loddiges' Botanical Cabinet, t. 3.





## HO'VEA PUN'GENS.

PUNGENT HOVEA.

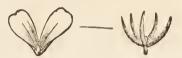
EXOGENEÆ,

OR

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, LEGUMINOSÆ.

OF DECANDOLLE.





Artificial divisions to which this Plant belongs.



MONADELPHIA, DECANDRIA, OF LINNEUS.

No. 164,

GENUS. Hovea. R. Brown. Calyx bilabiatus, labio superiore lato retuso vel semibifido, inferiore minore tripartito. Vexillum explanatum. Alæ oblongæ vexillo breviores, carinâ obtusâ longiores. Stamina omnia connexa vel decimo plus minusve libero, vagina antice vel utrinque fissa. Antheræ alternæ ovatæ medifixæ, alternæ oblongæ adnatæ. Ovarium bi- vel tri-ovulatum. Stylus adscendens filiformis glaber. Stigma obtusum, nudum. Legumen subrotundum obliquum, ventricosum. Semina strophiolata. Suffrutices fruticesve Australasici. Folia alterna simplicia. Flores axillares purpurei aut violacei.

SPECIES. Hover pungens. (Bentham.) Foliis linearibus margine revolutis reticulatis glabris vel pilosulis rigidis apice mucronato-pungentibus, stipulis setiformibus, pedicellis calyce parum longioribus, ovario stipitato glabro.

Character of the Genus, Hovea. Calyx two-lipped, the upper lip broad, retuse, or semibifid, the lower much smaller and three-cleft. Standard spreading. Wings oblong, shorter than the standard, longer than the blunt keel. Stamens all united, or the tenth more or less free, the tube split in front, or both front and back. Anthers alternately oval and versatile, and oblong and adnate. Ovary with two or three ovules. Style ascending, filiform, smooth. Stigma, blunt, naked. Pod roundish, oblique, swollen. Seeds with a strophiola.

Description of the Species, Hovea pungens. Stem erect, shrubby, stiff, the young branches downy. Leaves alternate, simple, sessile, half to three quarters of an inch long, spreading, linear, stiff, ending in a sharp pungent point, the margin revolute, transversely reticulate, smooth or slightly hairy. Stipules stiff, one or two lines long, subulate. Pedicels usually solitary, short, one-flowered, curved downwards, bearing at the top two small bracts, similar to the stipules and close to the calyx, and about half its length. Calyx covered with soft appressed hairs, curved, the upper lip very large and truncate, slightly emarginate, the divisions of the lower lip, narrow, and about half the length of the upper one. Corolla of a deep violet

purple. STAMENS monadelphous, the sheath split in front. OVARY smooth, stipitate, with two or three ovules.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Hovea, rich in ornamental species, extends along the South Eastern portion of Australia, from Moreton Bay on the East Coast, to King George's Sound, on the south coast, some species being also found in Van Diemen's Land. It is a very natural and distinct group, all the species having considerable affinity to each other, and being readily distinguished from other genera by characters necessarily minute in an order so vast as that of the Leguminosæ, but constant. The flowers are always more or less blue or purple, and the calyx is unlike that of any other genus, except Platylobium and Bossiæa, which have yellow flow-The leaves in most of them are variable in form, being much broader in the lower part of the plant. The species, which is the subject of the present article, is a native of King George's Sound, and is easily known by its narrow pungent leaves. It is one of the most brilliant in colour, and, when well grown, becomes nearly as full of flower as the Hovea chorozemæfolia. G. B.

Introduction; Where grown; Culture. The seeds of Hovea pungens were first gathered at King George's Sound, by Charles Baron Hugel, and raised, amongst a great variety of Australian plants, collected by him, at his establishment at Hietzing, near Vienna, where it first flowered, in the spring of 1837, and was figured in the second number of a publication, commenced at Vienna, in imitation of the Botanical Register, but which does not appear to have been as yet continued. From Baron Hugel Messrs. Rollisson obtained this species, and it was at their nursery, at Tooting, that our drawing was made. It is as easy of cultivation as other New Holland Papilionaceæ.

Derivation of the Names.

Hovea, named by R. Brown in honour of Anthony Pantaleon Hove, a traveller who introduced many Persian and Crimean plants to the Kew Gardens.

Synonymes.

Hovea pungens. Bentham, in Hûgel's Enumeratio, p. 36. Botanisches Archiv, t. 7.





Mr A the to

Condendrum Schomburgher

N' vill sculy

# EPIDEN'DRUM SCHOMBURG'KII.

SCHOMBURGK'S EPIDENDRUM.

ENDOGENÆ,



Natural division



NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.



( Artificial divisions to which this Plant belongs.



MONANDRIA,

No. 165.

GENUS. EPIDENDRUM. LINNÆUS. PERIGONII foliola exteriora patentia, subæqualia, interiora æqualia vel angustiora aut rarius latiora. Labellum ungue cum marginibus columnæ omnino vel partim concreto, limbo integro vel partito, disco sepius calloso, costato vel tuberculato, interdum in calcar ovario adnatum productum. Columna elongata, clinandrio marginato, sæpius fimbriato. Anthera carnosa, bi-quadrilocularis. Pollinia quatuor, caudiculis totidem replicatis. Herbæ Americanæ tropicæ epiphytæ, caule pseudobulboso vel elongato, foliis sæpius carnosis.

SPECIES. EPIDENDRUM SCHOMBURGKII (LINDLEY) foliis distichis oblongis obtusis carnosis, caule simplici apice aphyllo squamoso, sepalis petalisque lineari-lanceolatis acutis æqualibus patentissimis, columna clavata clongata, labelli trilobi basi bicalloso linea mediana elevata, lobis lateralibus latis rotundatis laceris, intermedio cuneato apice triangulari crispo medio et utrinque acuminato.

CHARACTER OF THE GENUS, EPIDENDRUM. PERIGON spreading, the outer divisions nearly equal, the inner ones equal to them, or narrower, seldom broader. LABELLUM with the claw connate with the column, either along its whole length or in part; the limb entire or divided; the disk usually callous, ribbed, or tuberculate, sometimes extending into a spur adhering to the ovary. Column elongated; the receptacle of the anther bordered, usually fringed. Anther fleshy, two or four-celled. Pollen masses four, with as many bent back caudicles.

DESCRIPTION OF THE SPECIES, EPIDENDRUM SCHOMBURGKII. EPIPHYTE growing to the height of two or three feet, without pseudobulbs. STEM leafy in its lower half, having in the upper part none but closely appressed sheathing squamæ. Leaves sheathing at the base, distichous, spreading, oblong, blunt, thick and fleshy, spotted with dark pink in a wild state, according to Schomburgk, generally two or three inches long. Flowers in a terminal raceme, which from the closeness of the pedicels to each other, takes the form of a loose head. Pedicels simple, one-flowered, each at the axil of a small bract. Ovary long, curved. Sepals and Petals all similar and equal, spreading, lanceolate, pointed, narrowed at the base, above half an inch, or nearly three-quarters in length, of a rich scarlet. Labellum borne on a claw which is connate with the column, into a club-shaped scarlet tube with a yellow orifice, rather shorter than the petals; the limb broadly orbicular, more or less deeply divided into three broad obovate, cuneate lobes, irregularly fringed on the margin; at the base are two projecting calli, and between them a projecting longitudinal line.

POPULAR AND GEOGRAPHICAL NOTICE, The genus Epidendrum which, in the days of Linneus and his immediate successors, was the common receptacle for nearly all tropical Orchidaceous Epiphytes known at that time, was first reduced to its natural limits by Brown, and, as adopted by Lindley, it remains at once a well-defined and a very numerous genus; probably the most numerous in America, to which hemisphere it is strictly confined. Every collection from the hotter parts of that country furnishes some new species, and the seventy-one enumerated by Lindley, in 1831, are, perhaps, now nearly The one here figured, one of the finest of the genus, chiefly from the richness of its colour, was discovered at the foot of the mountain Attarypon, near the Rupunoony, in British Guiana, by M. Schomburgk, who in a letter to Dr. Lindley, quoted in the Botanical Register, states that he found it growing, in company with Corvanthes on a tree on the banks of the river, exposed to full light. description made in the same work, taken from dried specimens and from a drawing of M. Schomburgk's, and the anticipations as to its beauty, have been fully confirmed now that the plant has flowered in our stoves. G. B.

Introduction; Where grown; Culture. This was drawn from plants sent over to this country to the Messrs. Loddiges, in whose epiphyte house it flowered in great perfection last spring. Its culture would be the same as mentioned under No. 116.

DERIVATION OF THE NAMES.

Epidendrum, from  $\epsilon \pi \iota$  epi, upon, and  $\delta \epsilon \nu \delta \rho o \nu$  dendron, a tree, in allusion to the mode of growth of this sort of plants. Schomburgkii, in honour of M. Schomburgk.

SYNONYME.

EPIDENDRUM SCHOMBURGKII. Lindley: Botanical Register. 1838, p. 15, t. 53.





Proton cynaroides.

### PRO'TEA CYNAROI'DES.

ARTICHOKE-LIKE FLOWERED PROTEA.

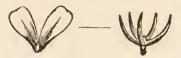
EXOGENÆ

OR

DICOTYLEDONER.



Natural division to which this Plant belongs.



NATURAL ORDER, PROTEACÆ.

MONOCHLAMYDÆ, VOF DECANDOLLE.



Artificial divisions to which this Plant belongs.





TETRANDRIA, MONOGYNIA, OF LINNEUS.

No. 166.

GENUS. Protea: Linneus. Involucrum imbricatum polyphyllum, persistens, receptaculum multiflorum, paleis abbreviatis persistentibus obsessum cingesn. Perigonium bipartibile, inæquale, labii latioris laminis tribus cohærentibus. Stamina quatuor, apicibus concavis laminarum perigonii inserta. Squamulæ quatuor hypogynæ. Ovarium uniloculare, uniovulatum. Stylus subulatus; stigma augustius cylindraceum. Nux monosperma, undique barbata, stylo persistente caudata. Frutices capenses, etiam in Abyssinia reperti, modo proceriores, fere arborescentes, modo subacaules; foliis integerrimis, capitulis terminalibus vel rarius lateralibus, receptaculo planiusculo vel interdum convexo, sæpius glabro, nonnunquam paleis connatis alveolato, involucro magno colorato, turbinato vel hæmisphærico, perigonii labio latiore sæpe bi-tri-aristato. Endlicher: Genera Plantarum, p. 337.

SPECIES. PROTEACYNAROIDES. LINNÆUS. Foliis subrotundis petiolatis, involucris sericeis, bracteis interioribus acutis, imberbibus, stylo infra medium pubescenti. Sprengel.

Character of the Genus, Protea. Involucium imbricated, many-leaved, persistent, surrounding the receptacle, which is many-flowered, and beset with persistent shortened paleæ. Perigone divisible into two portions, unequal, the three segments of the broader lip cohering. Stamens four, inserted into the concave tops of the segments of the perigone. Scales four, hypogynous. Ovary one-celled, containing one ovule. Style subulate; stigma narrower, cylindrical. Nut one-seeded, clothed throughout with beard-like hairs, and terminated by the persistent style, resembling a tail.

Description of the Species, Protea cynaroldes. A low shrub, the stem being rarely two feet, erect, simple, wrinkled. Leaves alternate, petiolate, petioles roundish, wrinkled, devoid of hairs, about an inch in length, the lamina smooth, spreading, entire, roundish, or obscurely mucronate, shining. Flower a terminal capitula, very large, of an ovate form, the numerous scales of the involucre progressively becoming larger from the base to the summit, oblong, acute, all of them covered with a silky down, those near the base brownish, the upper ones of a delicate pink, deeper on the inner side especially at the margins. Receptacle flattish. Perigon with a long tube, separable at the top into two lips, unequal, entirely clothed with a white down. Stamens

four, inserted into the concave tips of the perigone, filaments short, anthers linear, or tapering, yellow. Ovary oblong, hairy, style one, awl-shaped, stigma slender, projecting beyond the perigon, of a bright red colour. Nut hairy, crowned by the persistent style.

POPULAR AND GEOGRAPHICAL NOTICE. This most magnificent species, even of the superb genus Protea, is a native of the Cape of Good Hope, growing on the sides and summits of mountains. It is, indeed, a wonderful thing to see a flower of its size, nearly as large as a child's head, borne on so diminutive a stem, for it is sometimes scarcely one foot in height. Protea grandiflora which comes nearest this in the size of the flower, has a tall branched stem. Protea pulchra and Protea speciosa, have likewise large heads of flowers, yet far inferior to the present subject, the dimensions of which cannot be estimated from the plate, as the figure is reduced to at least half the natural size. A question may be asked, what purpose does this extraordinary magnificence in the flower serve? It is at present impossible to answer, as no direct use is made of any part of the numerous species of Protea, except for firewood; yet the flower of Protea rubens and Protea mellifera contain much sweet juice, which would be acceptable to the bees if they grew in the open air, Common as Proteaceous plants are in Australia, not one species of the genus Protea has been found there; indeed, they are strictly confined to the Cape of Good Hope, save one, Protea abyssinica, mentioned in Bruce's Travels, quarto edition, vol. V, appendix, p. 52, with a plate.

Introduction; Where grown; Culture. This plant was introduced into Britain, in 1792, by Messrs. Lee and Kennedy, Hammersmith nursery. It is a hardy greenhouse plant. "The best soil is light turfy loam, mixed with rather more than one third of fine sand; the pots must be well-drained with broken potsherds. Care must be taken not to let them droop for want of water, as the young roots are of a very fleshy substance, and soon suffer by two much drought, as well as by too much wet, so that they seldom recover, if suffered to flag too much. They also like to be placed where they may have a free circulation of air, as they cannot bear to be crowded, like some more rigid-growing plants. Ripened cuttings, taken off at a joint, and pared quite smooth, will strike root, if planted thinly in pots of sand, placed under a hand-glass, but not plunged: the glasses must be often taken off, to give them air."

DERIVATION OF THE NAMES.

PROTEA, from Proteus, alluding to the great diversity of appearance of the genus. Cynaroides, from cynara, the artichoke, and oides, resemblance.

SYNONYMES.

PROTEA CYNAROIDES. Thunberg. Prodromus Floræ Capensis, 28. Dissertation, 59. Linneus, Mantissa, 190. Andrews's Botanist's Repository, IV. pl. 288. Botanical Magazine, 770.





. Enhymunthus parasition.

# ÆSCHYNAN'THUS PARASI'TICA.

PARASITIC ÆSCHYNANTHUS.

EXOGENÆ,

OI

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, GESNERACEÆ.

OF DECANDOLLE.





Artificial divisions to which this Plant belongs.



DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 167.

GENUS. ÆSCHYNANTHUS. JACK. CALYX quinquedivisus, tubulosus vel partitus. Corolla bilabiata. Stamina antherifera quatuor, antherarum loculis parallelis. Stigma indivisum, dilatatum, subinfundibuliforme. Capsula elongata, valvis strictis. Semina pendula, apice nuclei affixa, utrinque pilifera, pilo inferiore unico, superiore unico duplici pluribusve. Suffrutices in arborum cortice radicantes, foliis oppositis æqualibus integerrimis coriaceis, venis obsoletis. Brown: in Plantæ Javanicæ Rariores, p. 115.

SPECIES. ÆSCHYNANTHUS PARASITICA. (WALLICH.) Foliis lanceolatis, calyce anguste campanulato semiquinquefido glabro, laciniis ovatis acutis, corolla filamentisque hirtis, seminibus extremitate superiore ditrichis.

Character of the Genus, Æschynanthus. Calyx five-cleft, either tubular with five teeth, or divided nearly to the base. Corolla two-lipped. Stamens four, fertile, the cells of the anthers parallel. Stigma undivided, dilated, somewhat funnel-shaped. Capsule elongated with straight valves. Seeds pendulous, fixed by a nucleus at the top, bearing threads at both ends, one only at the lower end; one, two, or more at the upper end.

Description of the Species, Æschynanthus parasitica. A climbing shrub, which in its native country spreads over the stems of trees, sending forth roots which penetrate into the outer bark of the trees, and give the plant the appearance of a parasite, although in fact it is rather an epiphyte, in the manner of the generality of tropical orchidaceæ. Branches smooth and somewhat fleshy, though more slender than in other species; the flowering branches pendulous in the wild state. Leaves opposite, on short footstalks, lanceolate, three to six inches long, ending in a long but not sharp point, perfectly entire, contracted at the base, smooth, thick, and fleshy, usually a little folded upwards along the mid-rib and waved on the margin, without any lateral veins. Flowers in terminal sessile umbels, of about six flowers, each flower on a pedicel of from a quarter to half an inch in length.

In the wild state in which the flowering branches hang, each pedicel is recurved so that the flowers, though reflexed with relation to the stem, are, in fact, ascending; in our stoves where the stems have been hitherto unnaturally trained upwards, the pedicels do not lengthen so much, and are straight, so that the flowers are erect or nearly so, and in a closer head. Calyx bell-shaped, but not spreading, smooth, green, half an inch long, divided to about the middle into five narrow ovate pointed lobes. Corolla tubular, from an inch and a half to near two inches long, swelling above the middle and more or less incurved, covered with short hairs, of a rich vermilion colour in the specimens which have flowered in this country, but described as varying to orange or brick red; the limb cleft into five erect divisions, nearly equal to each other and obscurely arranged in two lips, the two upper divisions being less deeply cleft, and the lowest rather longer and narrower than the STAMENS exserted, the filaments hairy, the anthers oblong, joined two and two together by their apex. Style exserted, smooth, with a large oblique peltate or somewhat funnel-shaped stigma. CAPsule eight or ten inches long, very narrow. Seeds very numerous and minute, with two white hairs at the upper end and one at the lower, each hair very slender and about half an inch long, that is to say, full twelve times the length of the seed.

POPULAR AND GEOGRAPHICAL NOTICE. Although the Orchidaceæ form by far the greatest proportion of the epiphytes, which adorn the stems of trees in damp tropical climates, yet they are far from being the only ones. Several Gesneriaceæ of other genera, besides Melastomaceæ, Rubiaceæ, Asclepiadaceæ, &c. have long since received, on this account, the specific name of parasite, and are often objects of great beauty. Hitherto, indeed, they have been but little known, partly from the difficulty of preserving specimens of thick fleshy plants as they usually are, and partly from the art of cultivating them being a creation, as it were, but of yesterday. But now that attention is so much turned to this branch of horticulture, it is to be hoped that we may soon see our epiphyte houses as varied and rich as our other stoves; and surely none can better deserve a place in them than the splendid genus of which the plant here figured is the first, and hitherto the only, representative which has found its way to this country. It is a native of Sylhet, a province of Bengal and has long been cultivated in the Calcutta Botanic Garden, having been, till of late years, almost the only species known, but the labours of Jack, Horsfield, Wallich, and Griffith, have now increased the number to twelve, as enumerated in the most valuable account of Cyrtandreæ, just published, by Robert Brown, and it is probable that the number yet to be discovered in the Indian archipelago is very large.

The memoir just referred to, drawn up by Mr. Brown on the occasion of describing one of the Cyrtandreæ, figured in Horsfield's Plantæ Javanicæ Rariores, besides several important observations on some obscure points of structural botany, contains a most valuable review of the limits and affinities of the group, and an enumeration of genera with accurate and concise characters. He clearly shews that those botanists who have endeavoured to establish the American Gesneriaceæ and the Asiatic Cyrtandraceæ as two distinct natural orders, have relied upon characters which in some cases have proved vague or fallacious, in others not to agree with the geographical distinctions which they had served to establish. Indeed, in one instance, a Mexican plant, supposed to be a distinct genus of American Gesneriaceæ, (the Klugia of Schlechtendal,) turns out upon examination to be but a species of the East Indian Cyrtandreous genus Glossanthus. He, therefore, unites the whole into one natural order under the name of Gesneriaceæ, divided into three tribes; the Gesnerieæ with an adherent ovarium and albuminous seeds; the Beslerieæ, with a free ovarium and the seeds of Gesnerieæ; and Cyrtandreæ, also with a free ovarium, but little or no albumen to the seeds.

The order, thus formed, it must be admitted, is a very natural one, differing botanically from the extensive order of Scrophulariaceæ by the ovary always consisting of a single cell instead of two. In appearance they are usually much handsomer, having seldom that weedy look peculiar to a large number of Scrophulariaceæ, and the flowers being very frequently scarlet, or a rich purple, or blue, colours very uncommon in Scrophulariaceæ, and even where they are pale or whitish, their large size often compensates for their want of colour. They are therefore, in general, most desirable acquisitions, for though they mostly require stove heat, they are either herbs or low shrubs, or at any rate will produce their flowers before they attain any great height, and few good collections are now without some species of Gesnera, Gloxinia, Trevirana, or Streptocarpus, although by far the greater number, and many of the most conspicuous, are only known as yet by dried specimens, G. B.

Introduction; Where grown; Culture. We owe the introduction of this valuable addition to our stove collections, to Dr. Wallich, the zealous superintendant of the Calcutta Botanic Gardens, who transmitted plants, some years since, to his Grace, the Duke of Northumberland, from one of which, by his Grace's obliging permission, our drawing was taken in January last. Other persons in this country received it also, probably from the same source, as a fine flowering specimen appeared last year, amongst Mrs. Lawrence's collection, at one of the exhibitions of the Horticultural Society. In both instances the plant has been grown and trained in the manner of terrestrial stove plants in which it will thrive well, but the flowers are placed in the unnatural position above mentioned; it is, therefore, to be expected that if treated like the more creeping kinds of orchidaceous epiphytes and allowed old bark to cling to and to hang from, not only would the general appearance be more natural and graceful, but the size and beauty of the heads of flowers would be much increased. When cultivated as a terrestrial plant its soil should be a vegetable compost, light, and well drained. The sort of pot in which this and similar plants are kept, is a matter of more moment than is usually believed; they should be soft and pervious to moisture, not made retentive of water by hard burning.

#### DERIVATION OF THE NAMES.

Æschynanthus from  $\alpha \iota \sigma \chi \nu \nu \eta$  modesty, and  $\alpha \nu \theta \circ \varsigma$  a flower. Parasitica, parasite.

#### Synonyme's.

Incarvillea parasitica. Roxburgh Coromandel Plants, v. 3, t. 291.

ÆSCHYNANTHUS GRANDIFLORUS. G. Don: General System, v. 4, p. 656.

ÆSCHYNANTHUS PARASITICA. Wallich: List, n. 796. Brown: Plantæ Javanicæ Rariores, p. 115.





# PHYSA'LIS SCHRADERIA'NA.

SCHRADER'S PHYSALIS.

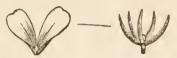
EXOGENEÆ,

or

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, SOLANACEÆ.

COROLLIFLORÆ, OF DECANDOLLE.





Artificial divisions to which this Plant belongs.





GENUS. Physalis. Linneus. Calyx quinquefidus, post anthesin increscens, fructifer plus minusve apertus v. sæpius clausus. Corolla plicata, in anthesi campanulato-rotata, limbo quinquelobo. STAMINA quinque, sub-Antheræ utrinque longitudinaliter dehiscentes. erecto inclusa vel circumdata, subglobosa, plus minusve succulenta, cortice tenaci. Semina numerosa, compressa, subreniformia. Bernhardi, in Linnæa, v. 13, p. 360.

SPECIES. Physalis Schraderiana (Bernhardi) suffruticosa, erecta, viscoso-pubescens, foliis binatis inæqualibus oblique cordato-ovatis integerrimis vel repando dentatis, calvee post anthesin clauso, fructifero aperto, ultra medium quinquefido, staminibus exsertis.

CHARACTER OF THE GENUS, PHYSALIS. CALYX five-cleft, increasing in size after the flowering is over; more or less open when the fruit is ripe, or more frequently closed, Corolla folded in the bud, rotate or somewhat bell-shaped; the limb of five divisions. STAMENS five, nearly equal. Anthers opening by two longitudinal slits. Berry inclosed or surrounded by the calyx, nearly globular, more or less fleshy, with a tough skin. SEEDS numerous, compressed, nearly reniform.

DESCRIPTION OF THE SPECIES, PHYSALIS SCHRADERIANA. STEM perennial, somewhat shrubby at the base, erect, a foot or rather more in height. Branches spreading, clothed, as well as the leaves, the peduncles, and calyxes, with clammy glandular hairs. Leaves growing generally two together, but of very unequal sizes, the larger ones often four or five inches long, borne on a stalk of an inch to an inch and a half, ovate, ending in a blunt point, entire, waved, or coarsely toothed on the margin, obliquely heart-shaped at the base. PEDUNCLES oneflowered, collected three to five together, in irregular umbels in the axils of the leaves, of unequal lengths. Flowers drooping. Calyx large and foliaceous, deeply five-cleft, five-angled, closing over the young fruit after the corolla has fallen off, but opening again as the fruit ripens. Corolla rotate, with an exceedingly short tube, of a pale yellowish white, an inch and half in diameter, deeply five-cleft,

the divisions ovate and marked on the base with spots of an olive green; throat bearded. STAMENS exserted, at first slightly so, with the anthers close together, but lengthening after the flowers are open and spreading. FRUIT a red globular berry.

POPULAR AND GEOGRAPHICAL NOTICE. In a paper on this plant, lately published in the Linnæa, by Professor Bernhardi, it is clearly shown that it is much nearer to the more usual forms of Physalis or Winter Cherry, than to Ruiz and Pavon's Saracha, and indeed he proposes, not, perhaps, without reason, to join both genera into one, which would consist of five sections, distinguished from each other chiefly by the calyx, which during the flowering is the same in all, excepting in as much as it is more or less deeply cleft. In the common Winter Cherry, to which he gives the sectional name Alkekengi, the calvx is not cleft to the middle, and encloses the fruit at its maturity, in Physalis somnifera, which is Mench's Physaloides and Don's Hypnotica, the calyx is the same but the fruit not so succulent; in Physalis atriplicifolia, Bernhardi's section Megistocarpus, the calvx is not cleft to the middle, it surrounds the fruit, but is open after the corolla has fallen off; in our plant, for which he makes the section Cycolis, the calvx closes over the young fruit, but is quite open when it is ripe, and is cleft below the middle; finally, in the true Saracha, the calyx, cleft nearly to the middle, never closes at all, nor surrounds the fruit.

The genus Physalis thus extended, is chiefly American, but with a few African and East Indian species. There appears to be some uncertainty as to the precise country where the species figured came from. We have not access to the garden catalogue, in which Schrader originally published it, nor do we possess wild specimens. It is probably, however, a native of Mexico.

G. B.

Introduction; Where grown; Culture. It was first raised in Germany; and seeds of it were transmitted thence to this country some years ago. Our drawing was made from a plant growing in her Majesty's garden at Kew, where it has greenhouse protection, but will grow with little care. During summer it may be turned into an open border of light earth, where it will flower, and ripen its berries.

DERIVATION OF THE NAMES.

Physalis from φυσαλις, a name derived from φυση a bladder, given by Dioscorides to a plant which Linneus supposed to be our winter cherry. Schraberiana, after Professor Schrader of Munich, who first published this plant as a Saracha.

SYNONYMES.

SARACHA VISCOSA. Schrader: in a Garden Catalogue. Don: in Sweet's Flower Garden, t. 323.

PHYSALIS SCHRADERIANA. Bernhardi: in the Linnæa, v. 13, p. 361.





Mills, del

Minutes puniceus.

Nevitt soulp

### MIM'ULUS PUNICE'US.

SCARLET MIMULUS.

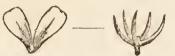
EXOGENÆ

OR

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, SCROPHULARINACEÆ.

OF DECANDOLLE.



Artificial divisions to which this Plant belongs.





DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 169.

GENUS. Mimulus. Linneus. Calyx tubulosus, quinque angulatus, quinquedentatus. Corolla bilabiata, quinquefida, lobis subæqualibus. Stamina quatuor, tubo corollæ inclusa, didynama. Antheræ biloculares, loculis divergentibus vel divaricatis sæpe confluentibus. Ovarium biloculare, placentis dissepimento adnatis. Stigma bilamellatum. Capsula bilocularis, loculicide bivalvis, valvis integris, medio septiferis, dissepimento demum apicc fisso vel integro, rarius a valvulis sublibero. Semina numerosa, minima, utrinque subulata. Herbæ suffruticesve. Folia opposita dentata vel rarius integerrima. Pedunculi axillares, oppositi, solitarii, uniflori, bracteati; superiores sæpe racemosi.

SPECIES. MIMULUS PUNICEUS. FRUTICOSUS, viscosus, glaber, foliis lanceolatis acutiusculis subserratis penninerviis, pedicelli saxillaribus folio brevioribus, calycibus elongatis plicatis, dentibus lineari-lanccolatis val deinæqualibus.

Character of the Genus, Mimulus. Calyx tubular, five-angled, five-toothed. Corolla two-lipped, divided into five nearly equal lobes. Stamens four, didynamous, included in the tube of the corolla. Anthers with two diverging or divaricate cells, often confluent. Ovary two-celled, the placentæ adhering to the dissepiment. Stigma of two plates. Capsule two-celled, splitting across the cells into two valves; which adhere by their centre to the dissepiment, or rarely separate from it. Seeds numerous, minute, slender, and pointed at both ends.

Description of the Species, Mimulus puniceus. A shrub or under-shrub of two or three feet high, smooth, but very glutinous, Branches erect, green, and herbaceous, acquiring sometimes a purplish hue, nearly cylindrical. Leaves of a dark green, very glutinous, lanceolate, rather more pointed than in Mimulus glutinosus, slightly toothed, contracted at the base where they embrace the stem; and those of the same pair are slightly connate. Pedicels solitary, axillary, from half an inch to an inch long, without bracts, bearing a single flower. Calyx nearly an inch long, slender, with five prominent angles ending in five narrow lanceolate or linear teeth, of which the upper one is much the longest. Corolla altogether nearly as long again

as the calyx, of a rich scarlet colour; the tube straight and projecting from the calyx; the limb spreading, divided into five nearly equal, bluntly emarginate lobes, arranged in two lips. Capsule oblong, the dissepiment adhering to the valves and splitting, together with the placentæ, from the apex to below the middle.

POPULAR AND GEOGRAPHICAL NOTICE. This species scarcely differs from the old Mimulus glutinosus, excepting in the colour of the flower; and, perhaps, in its larger stature and more pointed leaves; but in both these respects the Mimulus glutinosus appears to vary very much. The two species, together with two or three others, like them, natives of North California, have been considered by M. Nuttall a distinct genus, to which he has given the name of Diplacus, derived from the only character which separates it from Mimulus, the splitting of the dissepiment into two portions at the maturity of the capsule. It may be observed, however, that in several Mimuli (as for instance Mimulus cardinalis) there is a partial splitting, or an intermediate state between the deeply split dissepiment of Nuttall's Diplaci and the entire one of other Mimuli, that in almost all cases the valves adhere to the dissepiment, and when they appear to be free, it is only because they are so thin and fragile, that they are, as it were, torn from it. This character has not, therefore, that constancy which is necessary to constitute a good artificial genus, and it is admitted by all, that in habit and general appearance the Diplaci do not form a good natural genus as distinguished from Mimulus, which it appears much more convenient to retain in its original integrity.

The genus thus extended has a wide geographical range, being an inhabitant of North America, Chili, Australia, East India, and the South-eastern portion of Africa. No species are ever found in North Africa, Europe, or North-western Asia.

G. B.

Introduced in 1837, by the Messrs. Low of Clapton, who received it from the nursery of Mr. Buist of Philadelphia. Our drawing was made in the garden of the Birmingham Horticultural Society, in July, from a plant then three feet high. It requires the protection of a greenhouse or well-protected frame, during winter; but in summer, will not only grow freely in the open ground, but will flower there till prevented by frosty weather. Cuttings strike root readily in a gentle heat.

DERIVATION OF THE NAMES.

Mimulus, from the Greek  $\mu\iota\mu\omega$  mimo, a monkey. Puniceus, scarlet,

SYNONYME.

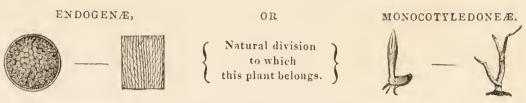
DIPLACUS PUNICEUS. Nuttall: in the Botanical Magazine, t. 3655.





#### CALOCHOR'TUS FLA'VUS.

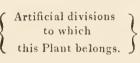
YELLOW CALOCHORTUS.



NATURAL ORDER, TULIPACEÆ.

HYPOGYNOSÆ, LINDLEY.







GENUS. CALOCHORTUS. PURSH. PERIGONIUM corollinum, deciduum, hexaphyllum; foliola sessilia vel subunguiculata, interiora supra basim fovca nectarifera et intus barbata, exteriora minora, fovcolata vel subplana, nuda vel intus barbata. Ovarium triloculare. Ovula in loculis plurima, biseriata, horizontalia, anatropa. Stigmata tria, subsessilia, libera vel basi coalita, reflexa, canaliculata. Capsula oblonga vel subglobosa, trigona, trilocularis, septicidotrivalvis, valvis demum bifidis. Semina in loculis plurima, uni-vel bi-scriata, horizontalia, compressiuscula, testa fusca membranacea laxiuscula hinc rhaphe percursa. Embryo rectus, teres. Herbæ Americæ borealis occidentalis, bulbosæ. Folia ensiformia, vaginantia. Flores speciosi, umbellati, racemosi vel subsolitarii. Endlicher: Genera Plantarum, p. 140.

SPECIES. Calochortus flavus (Schultes) caule subsimplici subbifloro, foliis caulinis bracteisque lineari-lanccolatis subulato-acuminatis, floribus pendulis, perigonii patentis foliolis exterioribus ovatis obtusè acuminatis, infra medium parce barbatis, interioribus obovato-rhomboideo medio barbatis.

CHARACTER OF THE GENUS, CALOCHORTUS. PERIGON of the nature of a corolla, deciduous, six-leaved; leaves sessile or shortly stalked, the inner ones marked above the base on the inside with a nectariferous pit, and bearded on the inside; the outer ones smaller, with the pit or without it, bearded inside or not. Stamens six, adhering to the base of the leaves of the perigon. Ovary three-celled. Ovules in each cell several, in two rows, horizontal, anatropous. three, nearly sessile, free or joined at the base, reflexed, canaliculate. Capsule oblong, three-angled, three-celled, splitting into three valves along the dissepiments, the valves at length bifid. Seeds several in each cell, usually in one or two rows, horizontal, somewhat compressed; testa brown, membranaceous, rather loose, with the raphis running along it on one side. Embryo straight, cylindrical.

DESCRIPTION OF THE SPECIES, CALOCHORTUS FLAVUS. tunicated, the tunic composed of woody fibres. Stem erect, flexuose, simple or slightly branched, perfectly smooth, as well as the rest of the plant, about a foot and a half high, nearly simple or slightly branched. Leaves stem-clasping but scarcely sheathing at the base, long, linear,

lanceolate, ending in a fine convolute point; the upper ones shorter and broader at the base. Peduncles axillary, one-flowered, erect or slightly flexuose, without bracts. Flowers nodding from the summit of the peduncle, yellow, spreading, from an inch and a quarter to an inch and a half in diameter. Outer leaflets of the perigon narrow, ovate, ending in a blunt point, somewhat concave, of the same petaloid consistence as the inner ones, with a few hairs in the centre but without any nectariferous pit. Inner leaflets scarcely longer than the outer ones, but much broader and nearly rhomboidal, slightly fringed on the margin, much covered with hairs on the inner surface, and with a slightly marked nectariferous pit. Filaments slightly dilated at the base. Capsule three quarters of an inch long, sharp, three-angled.

Popular and Geographical Notice. We have already stated (No. 98 of the Botanist) the connection between the Cyclobothræ of Don with the true Calochorti, and a slight inspection of the present figure will show at once how very near it is to some of the original North American species. It appears not to be an uncommon Mexican plant, growing abundantly in the dry mountainous pastures in the mining districts to the north and west of the town of Mexico. G. B.

Introduction; Where Grown; Culture. This is one of a very large collection of bulbs imported by the Horticultural Society from Mexico, by means of their zealous and active collector M. Theodor Hartweg. Unfortunately, the French blockade of Tampico, in 1838, occasioned so much delay in the transmission of the collections of that year, that a great number had perished before they arrived; and the want of the ardent solar heat necessary for ripening bulbs of this description, are great obstacles to their multiplication in this country: attention, therefore, to this part of the culture of Mexican, Chilian, and Cape bulbs, usually much neglected, is of the greatest importance.

Calochortus flavus is usually kept in the greenhouse, but it may be flowered successfully in a warm dry border, in the open garden. Fresh loamy earth, with a free admixture of leaf-mould and sand, will be very suitable for it; and the bulbs should be planted in April, and taken up again in the autumn, after vegetation has ceased.

DERIVATION OF THE NAMES.

Calochortus, from καλος handsome, and χορτος grass. Flavus yellow.

SYNONYMES.

FRITILLARIA BARBATA. Humboldt and Kunth, Nova Genera et Species, v. 3, p. 288, t. 677.

CALOCHORTUS FLAVUS. Schultes: Systema Vegetabilium, v. 7, p. 1535.



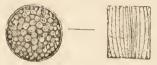


L'essochelus parviglerus

### LISSOCHI'LUS PARVIFLO'RUS.

SMALL-FLOWERED LISSOCHILUS.

ENDOGENEÆ,



Natural division

MONOCOTYLEDONEA.

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, DECANDOLLE.





{ Artificial divisions to which this Plant belongs. }



No. 172.

Lissochilus. Brown. Perigonii explanati foliola exteriora GENUS. herbacea, libera, parva, reflexa, vel uti interiora maxima, alæformia, patentia. LABELLUM liberum, vel eum columnæ basi connatum, saccatum, concavum, subintegrum vel trilobum. Columna brevis, crecta, semiteres. Anthera bilocularis, cristata. Pollinia duo, postice biloba, caudicula brevi lincari, glandula trianguları. Herbæ Africanæ, terrestres, acaules, pseudobulbosæ, foliis striatis vel plicatis, racemis radicalibus multifloris. Endlicher. Genera Plantarum, p. 201.

SPECIES. Lissochilus parviflorus, (Lindley), Foliis plicatis, scapo radicali sexocto-floro, sepalo supremo ovato concavo unguiculato reflexo lateralibus petalis subæqualibus patentibus, petalis oblongis subunguiculatis, labello sublibero basi auriculato, epichilio oblongo obtuso tricarinato, gibbo porrecto obtuso antice sulcato. LINDLEY: Genera and Species of Orchidaccous Plants, p. 191.

CHARACTER OF THE GENUS, LISSOCHILUS. PERIGON spreading, the outer leaflets free, herbaceous, and either small and turned back, or, like the inner ones, broad, spreading, and wing-shaped. LABEL-LUM free, or connate with the base of the column, bag-shaped, concave, nearly entire, or three-lobed. Column short, erect, semicylin-Anther two-celled, crest-shaped. Pollen masses two. divided into two lobes at the back, with a short linear caudicle and a triangular gland.

DESCRIPTION OF THE SPECIES, LISSOCHILUS PARVIFLORUS. Pseudo-bulbs short, nearly globular. Leaves three to six, broad, linear, about a foot long, folded lengthwise. Flower-stem radical, erect, about the length of the leaves or rather longer, smooth, striate, bearing a few membranous sheathing pointed scales or bracts, and towards the top a raceme of six or eight flowers. Pedicels short, one-flowered, each at the axil of a short bract. Ovary cylindrical. FLOWERS smaller than several of the genus, being barely an inch in diameter. Sepals or outer divisions of the perigon green, with longitudinal streaks of a dull purple, the upper one oval oblong, rather longer than the petals and somewhat reflexed, the two

lateral ones spreading like the petals, and nearly as broad. Petals or inner divisions streaked with red and yellow, broadly ovate or nearly orbicular, very blunt. Labellum free from the column, longer than the petals, three-lobed, the terminal lobe as long as the lower part, yellow, nearly orbicular, convex, marked with longitudinal plaits or streaks, of which the three central ones are more prominent; lateral lobes broad, short, turned upwards, streaked with purple inside, yellowish outside. Column thick, greenish, rather shorter than the petals.

POPULAR AND GEOGRAPHICAL NOTICE. This is a small African genus which was originally separated from Eulophia on account of the great disproportion between the size of the petals and that of the sepals, which gives a very distinct appearance to the Lissochilus speciosus. If, however, the present species, and Lissochilus æqualis, are to be retained in the genus, that character disappears altogether, and it might be thought expedient to reunite Lissochilus with Eulophia, were it not for the great authority of Lindley in these matters, who in his latest works retains them as distinct. Among seven or eight species hitherto described, the greater number are found in the hills of the south-eastern districts of the Cape Colony, from Uitenhage eastward; one has been gathered at Boney in tropical Africa, and the Lissochilus Arabicus was found by Forskol in the mountains of Hadie, on the Arabian side of the Red Sea. This, the Orchis flava of Forskol, is said by him to be known under the name of Djissâb by the Arabs, who assert that the juice, applied to the prick of a thorn, will expel it from the wound; probably one of the imaginary properties so frequently attributed to plants by country people. It was gathered by Forskol on Mount Barah, near the town of Mokaja; the latter name being probably on Forskol's label with the Arabian name of the plant, has occasioned a rather ludicrous mistake, in supposing that he meant the mosque of Djygâb as the station where he found it.

Introduction; Where grown; Culture. The Lissochilus parviflorus was received from the province of Uitenhage, near Algoa Bay, by Messrs. Loddiges, and first flowered in their stoves in December, 1837. Our drawing was made there in the following winter. It requires the usual treatment of this class of plants.

DERIVATION OF THE NAMES.

SYNONYME.

Lissochilus Parviflorus. Lindley: Genera and Species of Orchidaceous Plants, p. 191.

# MEYEN'IA HAWTAYNEA'NA.

HAWTAYNE'S MEYENIA.

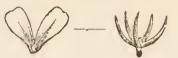
EXOGENÆ

OR

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, ACANTHACEÆ.

COROLLIFLORE,
OF
DECANDOLLE.





Artificial divisions to which this Plant belongs.





DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 188.

GENUS. MEYENIA. NEES. CALYX basi bibracteolats, brevus, quinquefidus. Corolla infundibuliformis, tubo brevi annulo piloso clanso, fauce sensim ampliata, limbo quinquefido patente subæquali. Stamina quatuor didynama; antheræ biloculares, apice barbatæ, loculi superiorum inæquales altero divergente, hine tomentoso, interiorum subæquales, paralleli, basi mutici. Ovarium biloculare, loculis biovulatis. Stylus simplex. Stigma bilabiatum, labiis bilobis. Capsula e basi globosa in rostrum conicum angustata, loculicide bivalvis. Semina strophiola cupuliformi spongiosa solubili excepta.

SPECIES. MEYENIA HAWTAYNEANA. (NEES.) FRUTEX scandens, foliis oppositis subsessilibus cordatis, floribus axillaribus solitariis pedunculatis.

Character of the Genus, Meyenia. Calyx with two bracteoles at the base, short, five-cleft. Corolla funnel-shaped, the tube short and closed with a ring of hairs, the throat widened, the limb five-cleft, spreading, nearly regular. Stamens four, of which two are longer; anthers two-celled, bearded at the apex; the cells of the longer pair unequal, one cell of each anther divergent and woolly, those of the shorter pair nearly equal, parallel, without spurs at the base. Ovary two-celled, each cell with two ovules. Style simple. Stigma two-lipped, each lip two-cleft. Capsule globular at the base, terminating in a conical narrow beak, dividing across the cell into two valves. Seeds bearing a cup-shaped spongy strophiola, separable from the seed.

Description of the Species, Meyenia Hawtayneana. Stem shrubby. Branches twining, slender, four-sided, slightly downy, glaucous, dichotomous, almost articulate and hairy at the joints. Leaves opposite, on very short stalks, ovate, entire, with a short point slightly heart-shaped, and stem-clasping at the base, two to three inches long, thick and firm, glaucous on both sides, especially underneath, smooth, with prominent reticulate veins. Peduncles axillary, solitary, one-flowered, shorter than the leaves. Bracteolæ two, opposed to each other at the top of the peduncle, leaf-like, about an inch long, oval, lanceolate, blunt, cohering together when young to about

the middle of their length. Calyx exceedingly short, and completely concealed within the bracteæ, with five very short broad divisions, or rather teeth. Corolla obliquely funnel-shaped, of a deep purple, the tube twice as long as the bracteolæ, the limb spreading and divided into five broadly-obcordate divisions nearly equal to each other. Capsule rigid, smooth, about an inch long.

POPULAR AND GEOGRAPHICAL NOTICE. The genus selected by the vounger Linneus, to do honour to Thunberg, was appropriately taken from the Cape Flora, which contains three or four species of these beautiful climbers, and to these about a dozen East Indian species have been added. Subsequently, Nees von Esenbeck, in working up the Acanthaceæ of the East Indian collections distributed by Dr. Wallich, observed differences in the structure of the anthers which induced him to separate the Thunbergia Hawtayneana of Wallich, as a distinct genus under the name of Meyenia, and three others, including the Thunbergia coccinea, under that of Hexacentris, considering the three together as the tribe of Thunbergieæ. We have in this respect followed the above-named distinguished botanist, although it does appear to us that so long as the total number of species remains so small, and they resemble each other so much in habit, it would have been better to have kept the genus of Thunbergia for the whole of them, dividing it into so many sections, which would have equally answered the purposes of science, and created less confusion in nomen-The present species, a native of the mountains of the Indian Peninsula, differs indeed from the true Thunbergias in the colour of the flowers, but that is variable in the old genus as even now limited, and there is nothing else in its general appearance to enable one to recognize this Meyenia as distinct from Thunbergia without a close examination of the anthers.

Introduction; Where Grown; Culture. This very splendid shrubby twiner was lately introduced to our gardens by his Grace the Duke of Northumberland, it having been received from Dr. Wallich; and by His Grace's obliging permission was drawn by our artist from a plant in the stove of Sion House gardens. Cuttings of half-ripened wood strike root freely in sand, under a bell-glass; but when these are potted off into loam and peat, the pots should be plunged, and other care taken to prevent irregularity of moisture. When established, they will demand but little attention.

DERIVATION OF THE NAMES.

MEYENIA, in honour of Dr. Meyen, a distinguished Prussian botanist and traveller. Hawtayneana after Hawtayne, who first gathered this plant in the Nilgherry Hills.

SYNONYMES.

Thunbergia hawtayneana. Wallieh: Plantæ Asiaticæ Rariores, v. 2, p. 52, t. 164.

MEYENIA HAWTAYNEANA. Nees von Esenbeck in the same work, v. 3, p. 78.





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Devitt soulp

# CYPEL'LA HERBER'TI.

MR. HERBERT'S CYPELLA.

ENDOGENE

OR

MONOCOTYLEDONE ...



\begin{cases}
Natural division to which this Plant belongs.



NATURAL ORDER, IRIDACEÆ.

EPIGYNOSÆ, OF LINDLEY.





Artificial divisions to which this Plant belongs.





MONADELPHIA, TRIANDRIA, OF LINNEUS.

No.199.

GENUS. CYPELLA: HERBERT. Perigonium corollinum superum, hexaphyllo-partitum, laciniis basi concavis, exterioribus majoribus patentibus; interioribus minutis, convolutis, apice reflexis. Stamina tria, perigonii laciniis exterioribus basi inserta, filamenta brevissime coalita, subulata; antheræ oblongæ, basifixæ, loculis connectivum marginantibus. Ovarium inferum, oblongo-prismaticum, triloculare. Ovula plurima, in loculorum augulo centrali Stylus brevis, filiformis; stigma dilatatum, trilobum, lobis erectis, trifidis, basi transverse appendiculatis. Capsula membranacea, oblongo-presmatica, trilocularis, loculicido-trivalvis. Semina plurima, angulata. Herbæ percnnes, in America tropica et australi sub-tropica indigenæ; rhizomate bulboso-tuberoso caule, erecto, folioso, apice ramoso, foliis late lineari-lanceolatis, plicato-nervosis, floribus laxe paniculatis, magnis, speciosis, spathis diphyllis, unifloris. ENDLICHER; Genera Plantarum, p. 166.

SPECIES. Cypella Herberti; (Herbert) Foliis linearibus plicatis scapo ramoso multiflori brevioribus, spathis inflatis flore multo brevioribus, laciniis perigonii exterioribus tortis apice caudatis, interioribus exiguis abrupte-incurvo-revolutis purpureo-penicellatis. Sprengel.

Character of the Genus, Cypella. Perigone resembling a corolla, superior, formed of six folioles, concave at the base, the three exterior larger, spreading; the interior ones small, convolute, reflexed at the point. Stamens three, inserted at the base of the exterior folioles, filaments very slightly united, subulate; anthers oblong, attached at the base; the cells forming a margin to the connectivum. Ovary inferior, oblongo-prismatical, three-celled. Ovules numerous, arranged in a double series in the central angle of the cells. Style short, filiform; stigma dilated, three-lobed; lobes erect, three-cleft, transversely furnished with an appendix at the base. Capsule membranaceous, oblongo-prismatical, three-celled, splitting by a loculicidal dehiscence into three valves. Seeds numerous, angular.

Description of the Species, Cypella Herberti. Permanent stem a solid bulb, about an inch in length, and acutely-ovate; sending up annually leaves and a flower stem. Radical leaves, broadly-linear-lanceolate, plaited. Flower stem about two feet high, flexuose, subglaucous, regularly dichotomous, and furnished with two unequally-sized bracts at the point of bifurcation. Flowers in a loose panicle, the peduncles from three to six in number, each about four inches long, exceeding the spathes in length, and bearing a single orange-coloured flower. Perigone of six folioles, having a singularly cup-shaped 48, sup,

depression at the base where they are minutely marked with purple. The three exterior large, spreading, rather narrow at the middle, dilated above, somewhat undulating at the margin, traversed from the point of dilatation to the apex by a dark purple line, which terminates in an acute mucro or tip: the three interior very much smaller, forming a double curve, so as to be very much recurvate at the apex, orange-coloured at the sides and margined internally by two pencilled lines, bordering a light greenish yellow stripe, which passes from the cup to the apex. Stamens three, inserted by very short filaments into the base of the three exterior folioles. Anthers erect, the cells forming an adherent margin to the connectivum; pollen greenish, ovary inferior, oblongo-prismatical. Style one, short. Stigma dark purple, two-lobed, each lobe three-cleft, the outer point shorter and obtuse, the inner acuminate and horned, the third curved downwards outwardly. Capsule three-celled, many-seeded; seeds small, brownish.

POPULAR AND GEOGRAPHICAL NOTICE. This interesting plant is the produce of both tropical and subtropical regions of South America, being found in Brazil in the former, and near Buenos Ayres in the The succession of flowers which clothes its delicate stems is not the only circumstance which should recommend it to our attention. The singular structure of its stigmas arrest our observation, from connecting in one series the Tigridias and Moreas with the Iris, in which last the stigmas are distinctly petaloid. The great diversity of form and character which this small organ exhibits in these plants, shews how infinite is the power of the Original Designer, to whom every fresh example of his exquisite contrivances should conduct our thoughts. "It is of peculiar importance to our reasoned comforts" observes Sharon Turner, "to that happiness which we derive from our intellectual convictions—that we possess, in the beauties and blessings of the vegetable creation, such universal and exuberant witnesses to us, of the benignity and philanthrophy of the Divine Creator."

Introduction; Where grown; Culture. Introduced in 1823, by seeds from Buenos Ayres. For the flower from which our drawing was made, we are inbebted to the Rev. H. T. Ellacombe of Bitton, near Bristol; a gentlemen whose obliging attentions we have had frequent occasion to acknowledge.

It should be planted in a light soil, containing a mixture of peat; and need not be taken up for many years, provided the bulbs be properly protected in the winter. It flowers in June and July, and ripens abundance of seeds.

DERIVATION OF THE NAMES.

Cypella from  $Kv\pi\epsilon\lambda\lambda o\nu$ , kupellon, a kind of cup, alluding to the cup-like depression in the centre of the flower. Herberti in compliment to the Honourable and Reverend George Herbert.

SYNONYMES.

TIGRIDIA HERBERTI. W. H. Bot. Mag. t. 2699.

MORÆA HERBERTI. Lindley; Bot. Reg. 949.

CYPELLA HERBERTI. Sweet: British Flower Garden, II, t. 33.





# ACANTHEPHIP'PIUM BI'COLOR.

TWO-COLOURED ACANTHEPHIPPIUM.

ENDOGENÆ,

Natural division this Plant belongs.

OR.

MONOCOTYLEDONE A.

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.



Artificial divisions this Plant belongs.





OF LINNEUS.

No. 200.

GENUS. Acanthephippium. Blume. Perigonii ventricosi foliola exteriora conglutinata, lateralia ungui columnæ adnata, supremum cum interioribus spathulatis fornicatum. Labellum cum pede columnæ longe producto clastice articulatum, unguiculatum, limbo trilobo, complicato, disco lamellato. Col-Anthera carnosa, bilocularis. Pollinia octo, inequalia, UMNA semiteres. HERBÆ indieæ, cpigacæ, subcaulescentes; caule inferne bulboso, vaginato, foliis oblongo-lanceolatis, plicatis, pedunculo vaginato paucifloro, floribus speciosis. ENDLICHER: Genera Plantarum, p. 200.

ACANTHEPHIPPIUM BICOLOR; (LINDLEY.) PETALIS oblongo-SPECIES. lanceolatis acutiusculis, labelli lobis lateralibus rotundatis, perianthio ovato.

CHARACTER OF THE GENUS, ACANTHEPHIPPIUM. The exterior folioles of the ventricose perigone agglutinated, the lateral ones adnate to the claw of the column, the upper one arched with the interior spatula-shaped, Lip elastically articulated with the foot of the column, which is very greatly prolonged, unguiculate, limb three-lobed, folded, disk lamellate. Column roundish. Anther fleshy, two-celled. Pollen masses eight, unequal, sessile.

DESCRIPTION OF THE SPECIES, ACANTHEPHIPPIUM BICOLOR. plant growing on the earth. Pseudo-bulbs oblongo-ovate, corrugated, dark-green, contracted a little towards the neck, clothed with the remains of the former leaves. Leaves rarely more than two or three, oblongo-lanceolate, plaited, erect, narrowed at the base, but without PEDUNCLE radical, clothed with large ovate concave, any petiole. brown scales bearing about four or five flowers. Perigone fleshy, an inch and a half long, ovate, or subconical, yellowish, except where it spreads out at the apex where it is of a deep purple. Sepals all conglutinated, oblong, obtuse, the lateral ones oblique at the base, and inserted into the base of the prolonged column. Petals of equal length, less marked at the apex, linear, oblong, acute. LIP articulated with the long foot forming the claw of the column, inflexed, folded,

three-lobed; the lateral lobes rounded, the intermediate one of a more yellow colour, fleshy and roughish, plates of the disk two only, concave, and separated by a raised line. Column roundish, acute; stigma margined; clinandrium devoid of a margin, sloping. Pollen Masses eight, arranged in pairs, and sessile on the gland, which is emarginate anteriorly.

Popular and Geographical Notice. This species, of a genus of orchidaceous plants found as yet only in the east, is a native of Ceylon. Of the other species, one Acanthephippium Javanicum is from Java, the second from the woods of Sylhet, Acanthephippium Sylhetense. All three are terrestrial in their place of growth, and not epiphytes. It is often difficult to find objects to which to liken the various plants in this tribe, which are so singularly diversified in form; but clustered as the flowers are in this species, they resemble a number of gaudy plumaged young birds crowded in their nest, the unexpanded flowers being like those which have the beak closed, while the others seem like the nestlings gaping for food.

Introduction; Where grown; Culture. Sent in 1833, by Mr. Watson, superintendant of the Government Garden, at Peradenia, Ceylon, to the Horticultural Society. Our drawing was made in the now greatly enlarged orchidaceous house of the Messrs. Loddiges, where it flowered in June, 1839. It grows in a mixture of peat and sand, having a bottom of pot-shreds, to insure a free drainage. It exhibits the characteristics of tropical vegetation, in requiring a great deal of heat and moisture while growing, and a change to a cool and dry atmosphere, each year during the season of repose.

DERIVATION OF THE NAMES.

Acanthephippium, from  $A\kappa\alpha\nu\theta o c$ , Acanthos, a thorn or spine, and  $\epsilon\phi\iota\pi\pi\iota o\nu$  ephippion, a saddle, but what connection this has with Blume's species seems incomprehensible. Bicolor two-coloured, from the party-coloured flower.

SYNONYME.

ACANTHEPHIPPIUM BICOLOR. Lindley: Botanical Register, t. 1730.





### PAXTO'NIA RO'SEA.

# ROSE-COLOURED PAXTONIA.

ENDOGENZE



Natural division to which this Plant belongs.

OR

MONOCOTYLEDONEÆ.

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.



Artificial divisions to which this Plant belongs.





GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 210.

GENUS. PARTONIA. LINDLEY. PERIANTHIUM patens, hexaphyllum, æquale; labello petalis conformi. Columna erecta, teres, subclavata, petalis paulo brevior. Anthera terminalis, opercularis, decidua. Pollinia 8, angusta, clavata, apice coherentia. Stigma rima transversa, verticale sub rostello. Herba cæspitosa, foliis plicatis, racemo multifloro, radicali, foliorum longitudine. Lindley: in Botanical Register, Vol. XXIV, t. 60.

SPECIES. PAXTONIA ROSEA (LINDLEY) Pseudo-bulbis dense aggregatis, oblongis, triphyllis. Foliis lanceolatis, plicatis. Scapis crectis, foliorum longitudine. Bracteis ovatis, acutis, patulis. Sepalis petalisque conformibus, æqualibus, oblongis, acutis; labello antico.

Character of the Genus, Paxtonia. Perianth spreading, formed of six equal folioles; lip similar to the petals. Column erect, round, somewhat club-shaped, a little shorter than the petals. Anther terminal, opening with lid, deciduous. Pollen masses eight, narrow, club-shaped, cohering at the apex. Stigma with a transverse slit, vertical under the beak.

Description of the Species, Paxtonia Rosea. Pseudo-bulbs much crowded together, oblong, marked with circular lines the scars of former leaves, each bulb producing three leaves. Leaves lanceolate, plaited, nearly a foot long, vaginating and tapering at the base where they are surrounded by concave, ovate, acute, brown scales. Scapes erect, springing from the base of the bulbs, equal in length to the leaves, about the thickness of a quill, having two or three distant vaginating scales. Bracts ovate, acute, spreading, as long as the pedicels. Flowers rose-coloured, nearly half an inch in breadth, pedicels slender, as long as the ovary. Raceme many-flowered. Sepals three, spreading, oblong, acute, perfectly regular. Petals three, also uniform, that which represents the labellum situated anteriorly. Column erect, round, flattened a little in front,

somewhat club-shaped, rose-coloured, shorter than the petals; the part supporting the stamens thickened at the margin and slightly lobed.

POPULAR AND GEOGRAPHICAL NOTICE. This plant is a native of Manilla, one of the Phillipine Islands, and is not only interesting in itself, from its beauty and elegance, but worthy of especial notice as an example of a perfectly symmetrical flower, in a tribe of plants, remarkable beyond all others for the singularity of shape, and bizarre character of the flowers. Instances such as this enable us to understand the real nature of the parts of the flower of orchidaceæ, which though twisted and moulded into the most fantastic forms, are yet constituted of similar organs as common flowers. It requires the acumen of a Brown, and a Richard, to surmise this, and the graphic skill of a Bauer to demonstrate it—rendering the study of these extraordinary plants practicable, and affording a constant exercise for the finest observation. All seems a maze of inextricable perplexity, till some master spirit discovers the thread, and renders the path easy to follow. Such has been the result of the labours of the distinguished botanists, above mentioned, to whom all succeeding ones owe immense obligations. Nature indeed sometimes aids in revealing the truth, and by the occasional production of a monster, shows the real structure of the most complicated parts. This was the case with the monstrous Orchis latifolia, described by Achille Richard in the Memoires de la Societé d'Histoire Naturelle de Paris, in which the flower was quite symmetrical, and had three perfect stamens. The genera Thelymitra, Hexisea, and Isochilus, show a tendency to regularity of the flowers, but not so complete as in Paxtonia.

Introduction; Where grown; Culture. Received by Messrs. Loddiges, in 1837, from Mr. Cuming. And our drawing was made in the stove of these praiseworthy importers of so many novelties. It grows in a pot on the stage of the orchidaceous house, and flowers in the autumn.

#### DERIVATION OF THE NAMES.

PAXTONIA, in compliment to Mr. J. Paxton, Gardener to the Duke of Devonshire, at Chatsworth, where his skilful treatment of the splendid eollection of Orchidaceæ, will entitle him to this commemoration. Rosea, the colour of the flowers.

SYNONYME.

PAXTONIA ROSEA. Lindley: in Botanical Register, Vol. XXIV, t. 60, and Mis. Not. 113.





# LOTUS ALBIDUS.

#### WHITISH-FLOWERED LOTUS.

EXOGENÆ,

OR

DICOTYLEDONE ...



{ Natural division to which this plant belongs.



NATURAL ORDER, LEGUMINOSÆ.

CALYCIFLORÆ, OF DECANDOLLE.



Artificial divisions
to which
this Plant belones.





DIADELPHIA, DECANDRIA, OF LINNEUS.

No 211.

GENUS. Lotus. Linneus. Calyx quinquedentatus vel quinquefidus. Corolla papilionacea; vexillum nudum; alæ vexillo subæquilongæ, a carina liberæ; carina alis brevior, rostrata, lateraliter nuda. Stamina diadelpha: filamenta alterne apice dilatata, vexillare a basi liberum; antheræ consimiles. Ovarium subsessile, multiovulatum. Stylus glabe, filiformis, adscendens. Stigma obtusum, subcapitatum. Legumen lineare rectum vel arcuatum, teres vel compressum, apterum, uniloculare vel sæpius isthmis cellulosis transverse divisum, bivalvatim dehiscens. Herbæ suffruticesve, foliis palmatim trifoliolatis, stipulis foliaceis, pedunculis axillaribus apice unifloris vel umbellatim plurifloris, umbella folio florali subtensa.

SPECIES. Lotus albidus (*Loddiges*) Herbaceus, decumhens vel subcrectus, canescens vel demum glabratus, foliolis stipulisque oblongo-cuncatis, umbellis longe pedunculatis 5-6-floris, laciniis calycinis tubo sublongioribus, leguminibus rectis teretibus glabris non torulosis intus divisis.

Character of the Genus, Lotus. Calyx five-toothed, or five cleft. Corolla papilionaceous, the standard without teeth or folds, the wings free from the keel, about as long as the standard, the keel shorter than the wings, beaked, without lateral appendages. Stamens diadelphous, the filaments alternately dilated at the top, the upper one free from the base; the anthers all alike. Ovary nearly sessile, with many ovules. Style smooth, filiform, ascending. Stigman blunt, almost capitate. Pod linear, straight or curved, cylindrical or flattened, without wings, unilocular, or more frequently divided across between the seeds by a cellular tissue, opening in two valves.

Description of the Species, Lotus albidus. Stem herbaceous, decumbent or nearly erect, loosely branched, a foot or two high. Branches when young, as well as the young shoots, whitish, with a short silky down, which almost disappears as the leaves are full grown. Leaves palmately trifoliolate, the common petiole three or four lines long, the leaflets half an inch to three quarters long, oblong, somewhat wedge-shaped, usually blunt, with rarely a small point, narrowed at the

base. Stipules like the leaflets, but rather shorter, and broader, and less wedge-shaped. Peduncles four to six inches long, bearing an umbel of four to eight fragrant flowers, larger than in our Lotus corniculatus. Floral leaf composed of three nearly sessile leaflets, like those of the stem leaves but smaller. Pedicels much shorter than the calyx. Calyx campanulate, nearly smooth, the teeth linear, nearly equal in length, and as long or rather longer than the tube. Petals white excepting the keel, which is tipped with a purplish tint. Pod when full grown nearly two inches long, straight, cylindrical, divided across in the inside between the seeds with a cellular tissue.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Lotus, if confined to what are perhaps its most natural limits, contains chiefly South European, North African, and central Asiatic plants, with a few Australian species, for all the American plants described as Loti will probably ultimately be included in Hosackia, or referred to a new genus. One, our common wild Lotus, has a very extensive range, being found all over Europe, and central Asia, and being likewise common in Australia; in the latter country have also been found a pink-flowered species, published as Lotus Australis: an unpublished scarlet one, and the present one, with very delicate pale, almost white, flowers, which have the advantage of being very fragrant. It is a native of Van Diemen's Land, or, as it is now more generally called, Jasmannia, from whence specimens have been sent by R. Gunn, Esq. under the No. 439, and grows also, probably, along the South Coast of the Australian continent. G.B.

Introduction; Where grown; Culture. This was first raised by Messrs. Loddiges, in 1822, from Australian seeds, and it has since been again sent over by various collectors, and will probably soon become common in conservatories. It flowers about midsummer, and may be increased from seeds or cuttings. Use sandy soil with plenty of drainers.

#### DERIVATION OF THE NAMES.

Lotus, the name of a great variety of plants amongst the ancients, applied by modern botanists to the present genus, under the impression that our Lotus corniculatus might have been the wild herbaceous Lotus of Dioscorides. Albidus, whitish.

SYNONYME.

Lotus albidus. Loddiges; Botanical Cabinet, t. 1063.





W . S.M. em del

Buyania Diego

Nev II sough

#### BEGO'NIA DRE'GII.

DREGE'S BEGONIA.

EXOGENÆ.

OR

DICOTYLEDONE AS.



Natural division to which this Plant belongs.



NATURAL ORDER, BEGONIACEÆ.

MONOCHLAMYDEE,

OF

DECANDOLLE.



Artificial divisions to which this Plant belongs.





MONŒCIA, POLYANDRIA, OF LINNEUS.

No.217.

GENUS. Begonia. Tournefort. Flores monœci vel diœci. Perianthium petaloideum, segmenta plerumque inæqualia. FLORES MASCULI. Segmenta Perianthii 2-4, rarius 6-9, subrotunda, minora sæpe spathulata. Stamina indefinita; filamenta plus minusve coalita, receptaculo inscrta; antheræ innatæ, connectivum clavatum, compressiusculum. Pistillum nullum. FLORES FÆMINEI. Segmenta Perianthii 4-6. Stamina nulla. Styli tres, sursum dilatati, undulati. Stigmata per margines terminales porrecta. Germen inferum, 3-quetrum, alatum, 3-loculare polyspermum. HERBÆ vel SUFFRUTICES regionum orbis calidarum, caule carnoso, translucente, articulato. Folia alterna, bistipulata. Pedunculi axillares, dichotomi. Flores rosei vel albi.

SPECIES. Begonia dregii (Link, Klotzsch, and Otto) caulescens, ramosa, glabra; radice tuberosa; foliis transverse rhomboideis, duplicato crenatis, supra argenteo-maculatis, subtus rubris; pedunculis bifloris, flore masculo perianthii segmentis duobus, fæmineo segmentis sex; capsulæ alis duabus majoribus obtusangulis, una rotundata.

Character of the Genus, Begonia. Flowers monœcious or diœcious. Perianth petaloid, segments generally unequal. Male Flowers. Segments of the Perianth 2-4, rarely 6-9, nearly round, the smaller ones often spathulate. Stamina indefinite; filaments more or less united, inserted into the receptacle; anthers erect, connective clavate, somewhat flattened. Pistil wanting. Female Flowers. Segments of the Perianth 4-6. Stamina wanting. Styles 3, dilated upwards, undulate. Stigmata stretched along the terminal margin of the styles. Germen inferior, 3-sided, winged, 3-celled. Ovules numerous.

Description of the Species, Begonia dregii. Whole Plant glabrous. Root tuberous, tuber flattened. Stem (in the specimen described, six inches high) erect, succulent, glabrous, pale red, faintly streaked with greenish white oblong spots, many rising from the crown of the root, branched. Leaves (1½ inch long, 2 inches across) petioled, oblique, transversely elliptico-rhomboid, subpeltate, 5-9-nerved, glabrous on both sides, green, with unequal silvery spots above, red below, darker on the nerves and their branches, doubly crenate; petioles spreading horizontally, twice as long as the leaves, having a shallow channel on the upper side. Stipules large, obliquely-ovate, colourless, reflected in the sides, marcescent. Peduncles axillary, about

as long as the petioles, spreading, having at the apex two opposite bracts, similar to the stipules, but rather smaller, more round, and somewhat unequal. Flowers (1 inch across) white, two arising between the bracts, one male, the other female, pedicellate, expanding about the same time; pedicels unequal, that of the male flower the longer, and nearly equal to the length of the peduncle. Male Flower dipetalous, the petals subrotund, flat, slightly unequal. Stamens united by the filaments only at the base; connective short, broad, the two anther cells forming lines along its edges, and of rather paler yellow than it. Female Flower 6-petalous, petals undulate blunt, elliptical, two opposite narrower than the others which are subequal, style broad, fan-shaped, undulate, revolute, and twisted, having along the terminal edge the villous stigmata, which are of darker yellow than the styles; germen with two subequal bluntly pointed wings, which are larger than the third more rounded one.

POPULAR AND GEOGRAPHICAL NOTICE. The very extensive genus Begonia was at one time considered entirely tropical, and it does abound especially on the eastern side of tropical South America, and the south and south eastern parts of India. It has been long known, however, that it extends beyond the northern edge of the tropic, in the east of Asia, reaching as high up as Japan. More lately several species have been found in Nepal, but this is less remarkable, as the hot vallies of that country furnish almost a tropical vegetation. I am not aware that any species has been found in America, to the northward of the tropic, though several are found in Mexico. Very few species have been found to the eastward of the Andes, and the species now figured, is, I believe, the first which has been detected on the continent of Africa, and in the southern hemisphere the first any where beyond the tropic. It was discovered by Dregé, but I do not know at what distance from the Cape of Good Hope. The difficulty of finding analagous forms to the Begoniaceæ in any other natural order, and the diversity of opinion hence arising among botanists as to their true position has been already fully adverted to at fol. 103 of this work.

Introduction; Where grown; Culture. Seeds of this plant were obtained at the Botanic Garden, Edinburgh, from M. Otto, Berlin, in April, 1840, with the M. S. name here adopted, but without any account of its native country, but I have since learned from M. Klotzsch that seeds and dried specimens were transmitted from the Cape of Good Hope to the Botanic Garden at Berlin, by M. Dregé. The seedling plants flowered abundantly with us in September, while in the hotbed where they were raised, and already have formed tubers as large as small oranges. They have received no particular treatment, and it does not appear that there will be any difficulty in preserving them in moderate heat.

DERIVATION OF THE NAMES.

Begonia, in honour of Begon a French Patron of Botany. Dregii in honour of M. Dregè, to whom we are indebted for this interesting addition to our collections, and to the flora of Africa.

Grah.





Mulva odorata

# MAL'VA ODOR'ATA.

SWEET-SCENTED MALLOW.

EXOGENÆ,

0R

DICOTTLEDONEA



Natural division
to which
this plant belongs.



NATURAL ORDER, MALVACEÆ.

THALAMIFLORÆ, OF DECANDOLLE.



Artificial divisions to which this Plant belongs.



MONADELPHIA
POLYANDRIA,
OF LINNEUS.

No. 218.

GENUS. MALVA. LINNEUS. Involucellum braetea bi-stipulata, basi calyci adnata, v. rarius pedunculo inserta. Calyx quinquefidus, laciniis æstivatione valvatis. Corollæ petala 5, hypogyna, obovata, sæpius inaequilatere emarginata unguibus imo tubo stamineo adnata, æstivatione convolutiva. Tubus stamineus brevis, columnæformis, apice in filamenta plurima filiformia divisus. Antheræ reniformes, bivalves. Ovarium sessile, multiloculare. Ov-ULA in loculis solitaria, adscendentia. Styli loculorum numero, filiformes, axi centrali inserti, basi coaliti: stigmata obtusa. Capsula depressa, poly-cocca. eoccis monospermis, ab axi centrali vix dilatata solubilibus, apice interdum bieuspidatis, nunc dorso v. angulo centrali bivalvibus, nunc indchiscentibus. Semen reniforme testa erustacea, emarginaturæ sinu umbilicata. Embryo intra, albumen parcissimum, mucilaginosum homotrope arcuatus; cotyledonibus foliaceis, sese plicato involventibus, radicula infera. HERBÆ suffrutices v. frutices, rarius arbusculæ, per totum orbem dispersæ, in regione Mediterranea, et Capite bonæ spei frequenter tamen crescentes; foliis alternis, petiolatis, integris v sæpius angulatis, plus minus lobatis, rarissime digitato-partitis, stipulis petiolaribus geminis, floribus axilaribus, nunc in apice ramulorum subsessilibus, et foliis bracteæformibus stipatis, nunc racemosis, spicatis v. glomeratis, corollis coloris omnis. Endlicher; Genera Plantarum, p. 980.

SPECIES. Malva odorata, Suffruticosa, glandulosa, pubescens, foliis petiolatis 3-5-lobis, acute dentatis petiola multo longioribus, involucellis ovatolanecolatis, floribus solitariis carneis.

Character of the Genus, Malva. Involucellum formed of bi-stipulate bracts, joined to the base of the calyx, rarely inserted on the peduncle. Calyx divided into five parts, valvate in æstivation. Petals of the corolla five, hypogynous, obovate, frequently unequal, notched, joined by the ungues into a staminous tube, convolute in æstivation. Staminous tube short, column formed, divided at the apex into many filiform filaments. Anthers kidney-shaped, two valved. Ovarium sessile, many-celled. Ovula solitary in the cells, ascending. Styles the number of the cells, filiform, inserted on a central axis, joined at the base. Stigma obtuse. Capsule depressed, many cocca, one-seeded, separable from a scarcely dilated central axis, sometimes two-valved from the back, or central angle, sometimes indehiscent. Seed kidney-shaped, testa crustaceous.

DESCRIPTION OF THE SPECIES, MALVA ODORATA. STEM suffruticose, round, branched, from three to twelve feet high, covered

more or less with a glandular pubescence. Leaves heart-shaped, pubescent, ebtuse, from three to five lobed, lobes acutely notched, sometimes on the lateral branches the leaves are entire, not lobed, and only acutely dentate. Petioles short, varying from one third to one fifth the length of the leaves, and similarly pubescent. Stipules ovate, lanceolate. Flowers pink, solitary, issuing from the axils of the leaves. PEDUNCLE shorter than the leaves, and covered with long hairs. Involucellum three-leaved, leaves ovate, obtuse, hairy, arranged alternately with the leaves of the calyx. Calyx pubescent, leafless, broadly ovate and longly acuminate. Petals five, obovate, longly unguiculate, unguis hairy, and forming a tube; margin of the lamina more or less irregular. FILAMENTS numerous, smooth, adhering to the unguis of the petals, and of an indigo colour. Anthers kidneyshaped, of a similar colour to the filament, dehiscing laterally, longitudinally. Pollen round, echinate, transparent in the centre. Styles about nine, longer than the filaments and anthers, and of a purple colour. STIGMA linear, papillose.

Popular and Geographical Notice. Many of the plants composing the genus Malva are showy, handsome, and deserving of cultivation by the amateur, and from the delicacy of the petals, and the freeness of the flowering, there are perhaps but few more worthy of this distinction than the one now figured. In addition to its beauty, it gives out a delicious balsamic fragrance, scenting the whole house; this property, however, is not preserved in dried specimens. The genus Malva is pretty generally distributed over the whole world, but the greatest number of attractive species are to be found at the Cape of Good Hope, and South America. Two species are natives of this country.

Introduction; Where grown; Culture. This plant appears to be of recent introduction, Our drawing was made from a fine specimen in the Royal Garden, Kew. It is not more difficult to treat than other of the suffruticose species, and it may be propagated by cuttings in the usual way. It will thrive in any good garden soil.

F. W.

#### DERIVATION OF THE NAMES.

The word Malva seems to have been altered by the Latins, from the Greek  $\mu a \lambda a \kappa \eta$  soft. The term was adopted in allusion to the emollient qualities of the plant. Odorata, odoriferous.





# AQUILE'GIA GLANDULO'SA.

GLANDULAR COLUMBINE.

EXOGENÆ

OR

DICOTYLEDONEÆ.



Natural division
to which
this Plant belongs.



NATURAL ORDER, RANUNCULACEÆ.

THALAMIFLORÆ,
OF
DECANDOLLE.



Artificial divisions
to which
this Plant belongs,





No. 219.

GENUS. Aquilegia. Linneus. Calyx quinque sepalis deciduis colorato-petaloideis. Petala quinque superne hiantia, bilabiata, labio exteriore magno plano, interiore minimo, deorsum producta in calcaria totidem cava inter sepala exserta. Stamina plurima, in phalanges quinque ad decem disposita, interiora, ananthera, filamentis dilatatis membranaceis oblongis. Ovaria quinque. Capsulæ totidem, erectæ, polyspermæ, stylis acuminatæ. Herbæ perennes erectæ, radice fibrosa. Folia pleraque radicalia, longe petiolata, bitriternatim secta. Flores terminales. Decandolle.

SPECIES. Aquilegia glandulosa (Fischer) Foliis biternatis, segmentis profunde incisis crenatisque obtusis, sepalis ovatis, eorolla multo longioribus, petalorum ealcaribus areuatis staminibusque lamina obtusa brevioribus, ovariis sex pluribusve.

Character of the Genus, Aquilegia. Calyx of five deciduous coloured petaloid sepals. Petals five, two-lipped and gaping at top, the outer lip large and flat, the inner very small, produced downwards into as many spurs projecting between the sepals. Stamens many, arranged in five or ten bundles, the inner ones without anthers and with broad membranous filaments. Ovaries five. Capsules as many, erect, many-seeded, pointed by the styles.

Description of the Species, Aquillegia Glandulosa. Stem usually about a foot to eighteen inches high, not much branched, nearly smooth in the lower part, more or less pubescent and glandular in the upper part. Leaves chiefly radical, or proceeding from near the base of the stem, with long slender footstalks divided above the middle into three, each bearing three nearly sessile segments, which are rounded somewhat cuneate, and divided to about the middle into three lobes, which are themselves crenated or obtusely lobed; these leaves are smooth and somewhat glaucous underneath; the few upper leaves are much smaller and often consist of a few linear segments only. Flowers solitary on the peduncles, large, nodding. Sepals oval, oblong, rather pointed, of a deep blue, smooth. Petals not half so long as the sepals, the lamina obovate, blunt, of a pale yellowish colour, spurs

blueish, much shorter than the lamina, the extremity blunt, and more or less curved, but usually much less hooked than in Aquilegia vulgaris. Stamens shorter than the petals. Capsules pubescent, six to ten in number, very seldom reduced to five.

POPULAR AND GEOGRAPHICAL NOTICE. The Columbines are all inhabitants of the temperate or even the cold regions of the Northern hemisphere in the new world as well as in the old. The greater number of species are found in central Asia. They usually prefer light woods in mountainous countries, although some of the more alpine species are also found in the crevices of elevated rocks. The present species, very common in the alpine and subalpine regions of the Altai Chain, there replaces our European Aquilegia Alpina, which it closely resembles, and of which it may possibly be a mere variety. It has, however, been distinguished by the shortness of the spurs of the petals, and by the number of ovaries, which are seldom if ever more than five, in the European species, and very rarely so few as five in the Siberian one. It is also a taller growing and handsomer plant, with larger flowers, and the petals are more frequently, though not constantly, white. None of these characters appear indeed to be absolute in all cases, but are nearly as good as those which serve to distinguish many other species of this most natural genus. G. B.

Introduction; Where grown; Culture. We were first favoured with a specimen of this fine plant by Mr. M'Intosh, from the gardens of Claremont; and being admired, it was drawn and engraved. Subsequently, splendid specimens of the same were obligingly sent to us by Norman M'Leod, Esq., of Dalvey, such as we were not prepared to see, and of which we confess our plate conveys but an imperfect idea. We regret its execution from the plant of our own growth, Mr. M'Leod's flowers being four inches across. This gentleman raises his plants from seed sown in autumn. When eighteen months old, they are removed from the seed bed to one of sandy loam and leaf-mould, and planted a foot apart. Here they assume a splendour in May and June which could not have been anticipated.

### DERIVATION OF THE NAMES.

Aquilegia, said to be derived from aquila an eagle, the spurs of the petals having been compared to the claws of that bird. Glandulosa, in allusion to the glaudular hairs with which the stems are covered.

Synonymes.

Aquilegia glandulosa. Fischer, in De Candolle's Prodromus, v. 1, p. 50. Ledebour, Flora Altaica, v. 2, p. 297.





#### RUSSEL'IA JUN'CEA.

RUSHY RUSSELIA.

EXOGENÆ,



Natural division to which

0B

this Plant belongs.

DICOTYLEDONE Æ.





NATURAL ORDER, SCROPHULARINACEÆ.

COROLLIFLORE,
OF
DECANDOLLE,





Artificial divisions to which this Plant belongs.





DIDYNAMIA, ANGIOSPERMIA, OF LINNEUS.

No. 220.

GENUS. Russelia. Jacquin: Calyx quinquepartitus, laciniis acuminato-subulatis, subæqualibus. Corolla hypogyna, tubulosa, superne ventricoso-ampliata, fauce barbata, limbo bilabiato, labio superiore emarginato-bilobo, inferiore tripartito, laciniis subæqualibus. Stamina quatuor, corollæ tubo inserta, didynama, inclusa, diclinata; antheræ biloculares, loculis divaricatis. Ovarium biloculare, placentis dissepimento utrinque insertis, multiovulatis. Stylus simplex; stigma obtusum. Capsula subglobosa, attenuata, rostrata, bilocularis, septicide-bivalvis, valvis bifidis, placentis coadnatis, demum liberis. Semina plurima, minima, aptera. Herbæ vel frutices, in Antillis et Mexico sponte crescentes; ramis angulatis, foliis oppositis vel ternatis verticillatisve, integris, corymbis axillaribus, floribus coccineis. Endlicher: Genera Plantarum, p. 677.

SPECIES. Russelia juncea (Zuccarini) Ramis tetragoniis erectis junceis, foliis minimis petiolatis ovatis subintegris, pedunculis filiformibus subbifloris. Lindley.

Character of the Genus, Russelia. Calyx five-parted, segments acuminately subulate, nearly equal. Corolla hypogynous, tubular, ventricosely-widening towards the summit, throat bearded, limb two-lipped, upper lip emarginately two-lobed, lower lip three-parted, segments nearly equal. Stamens four, inserted into the tube of the corolla, didynamous, included, deflexed; anthers two-celled, cells diverging. Ovary two-celled, the placentæ inserted on each side of the dissepiment, bearing numerous ovules. Style simple; stigma obtuse. Capsule subglobose, attenuately beaked, two-celled, splitting by a septicidal dehiscence into two valves; valves bifid, the placentæ at first cohering, ultimately free. Seeds numerous, very small, winged.

Description of the Species, Russelia Juncea. Stem about three feet high, angular, green, dividing into numerous very slender tetragonal branches of a pale green colour, the young ones nearly devoid of leaves, nodding. Leaves always small, often very minute, larger however than the very slender branches, petiolate, ovate, acute, most delicately serrate or ciliate at the margin, sometimes furnished with one or two teeth. Inflorescence apparently panicled, but in

reality consisting of the extreme slender branches, distant from each other, but disposed in the fashion of a raceme, at the points of which one or two stalked and nodding flowers are placed. Calyx small, sepals five, ovate, acute, imbricating. Corolla crimson, tubulose, about an inch long, dilating towards the upper part, limb somewhat unequally five-cleft; segments obtuse, the two superior rather approximating. Stamens four, didynamous. Anthers smooth, oblong, apiculate, lobes parallel. Stigma two-lobed; lobes oblong, flat.

POPULAR AND GEOGRAPHICAL NOTICE. The species as yet known to belong to this small genus, are herbaceous or shrubby plants natives of the Antilles and of Mexico. The present species is the produce of Mexico; and few plants introduced of late years surpass it in the beauty of the flowers, or the delicacy, grace, and singularity of its branches. The elegant green pendulous branches terminated by the rich crimson flowers, at once charm the eye, and excite an interest by causing us to consider how such thread-like organs, and the minute leaves attached to them, can accomplish the elaboration of sufficient sap to nourish and perfect the fruit with its multitude of seeds. This is the more remarkable when we reflect that in the same country grows the Agave Mexicana, with its large, thick, and enduring leaves, which need several years before they can elaborate sufficient sap to enable it to elevate its flower stem with its countless flowers. These contrasts testify the boundless power of the Sovereign Creator, and the contemplation of them prompts us to exclaim with our great poet,

"These are thy glorious works, Parent of good,
Almighty, thine this universal frame,
Thus wondrous fair; thyself how wondrous then!
Unspeakable, who sit'st above these heavens
To us invisible, or dimly seen
In these thy lowest works; yet these declare
Thy goodness beyond thought, and power divine."

Introduction; Where grown; Culture. Sent from Mexico by Count Karwinski to Berlin and Munich, whence it was introduced into Britain in 1833.

It requires the protection of the greenhouse, and flourishes well in any light rich soil. It is easily propagated by cuttings. It flowers freely in July and August.

DERIVATION OF THE NAMES.

Russelia, in compliment to Dr. Alexander Russell, an English physician, who spent some time at Aleppo, and wrote an account of the Natural History of that place. Juncea from juneus, a rush, from the rush-like character of the branches.

SYNONYMES.

Russelia Juncea. Lindley: in Botanical Register, t. 1773.
Russelia equisetiformis? Chamisso and Schlectendal. Linnæa. vi, p. 377.





Mrs Withers del

Tropwolum Moritzianum.

Nevre size,

#### TROPÆ'OLUM MORITZIA'NUM.

MORITZ'S INDIAN CRESS.

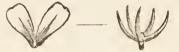
EXOGENÆ.

OR

DICOTYLEDONER.



Natural division to which this Plant belongs.



NATURAL ORDER, TROPÆOLACEÆ.

THALAMIFLORE,
OF
DECANDOLLE.





Artificial divisions to which this Plant belongs.





OCTANDRIA, MONOGYNIA, OF LINNEUS.

No 221.

GENUS. Tropæolum. Linnæus. Calyx 5-partitus, lobo superiore calcarato. Petala 5, inæqualia, 3 inferiora minora aut evanida. Stamina 8, ab ipsa basi libera. Carpella 3, suberosa, reniformia, indehiscentia, hine sulcata rotundata. Semina magna, exalbuminosa, loculum suum implentia et hujus cavitati conformia. Embryo magnus; cotyledonibus 2, rectis, crassis, junioribus distinctis, dein arcte conferruminatis et etiam cum spermodermate adhærentibus, ima basi subdistinctis; radicula intra cotyledonum processus latente, tubercula 4 mox radicellas proferentia gerente. Herbæ Americanæ, sapore nasturtiano donatæ, glabriusculæ, teneræ, diffusæ, aut volubiles. Folia alterna, non stipulacea, petiolata, peltinervia. Pedunculi axillares, 1-flori.

SPECIES. Tropæolum Moritzianum (Link, Klotzsch, Otto) ubique glaberrimum; foliis peltatis sinuatis, reniforme-orbiculatis, basi truncatis, nervis margine mucronato-dentatis; petalis calycem vix superantibus, argute incisis, duobus superioribus subsessilibus, basi cuneatis, tribus inferioribus longe unguiculatis, subrotundis, palmato incisis, unguibus longe ciliatis; calcare recto, petalis longiore.

CHARACTER OF THE GENUS, TROPÆOLUM. CALYX five-partite, the upper lobe spurred. Petals five, unequal, the three lower smaller or undeveloped. Stamens eight, entirely free. Carpella three, corky, kidney-shaped, indehiscent, or furrowed and rounded. Seeds large, exalbuminous, each completely filling the loculament in which it is placed. Embryo large, with two straight thick cotyledons, at first free, afterwards firmly agglutinated to each other, and to the testa, subdistinct at the base, the radicle lying between the processes of the cotyledons, bearing four tubercles, from which rootlets presently arise.

DESCRIPTION OF THE SPECIES, TROPÆOLUM MORITZIANUM. PLANT every where glabrous. Root tuberous. Stem long, slender, much branched. Leaves  $(2-2\frac{1}{2})$  inches across) petiolate, alternate, reniform-suborbiculate, bright green above, glaucous below, nerves radiated, reticulated, conspicuous, seven-nine lobed, truncated at the

base, with shallow rounded sinuosities between the lobes; lobes rounded, emarginate, having in the centre a little yellow callous tooth at the extremity of the nerve; petioles  $(2-2\frac{1}{2})$  inches long) acting as cirrhi to support the plant. PEDUNCLES (three inches long) solitary, singleflowered, longer than the petioles. Flowers funnel-shaped. Calyx reddish on the outside, yellow and streaked with red within; segments ovato-lanceolate, callous at the apex, the upper the shortest and narrowest, the two lower the longest, the intermediate ones the broadest; spur straight, tapered, twice as long as the limb, more fleshy in the upper half than towards its apex, nectariferous. Corolla little longer than the calyx, red on the outside, orange-coloured within; petals unequal, the two upper subsessile, multifid at the apex, entire and wedge-shaped at the base, four-nerved, the three lower with long claws, subrotund, palmate, segments acuminate, the lowest the narrowest, and passing into long ciliæ upon the upper half of the claws. Stamens rather distant, and nearly straight, rather shorter than the calyx; anthers round, dark, pollen green, granules small, spherical. PISTIL nearly as long as the filaments; germen green, glabrous, three-lobed, the lobes keeled; style straight, stout; stigma of three acute segments, the upper being rather longer than the others.

Popular and Geographical Notice. The right of the Tropæolaceæ to rank as a distinct order, has been doubted. It contains only three ascertained genera, and only an inconsiderable number of species, yet it does seem to me that we cannot unite these with any of the orders to which they have been thought to be most nearly related. The whole order belongs to Mexico, or South America, and the different species of the genus Tropæolum are scattered from the Northern limit of the order, as far to the Southward as Buenos Ayres. They are used as stimulating salads, and the tuberous roots of our species, when cooked, are used extensively as an article of food. As ornaments in the flower border they have long been deservedly favourites, and the present species will be considered by florists a very acceptable addition. If the tuber be protected in the winter, there seems little reason to doubt that it will, during summer, thrive well in the open air.

Introduction; Where grown; Culture. This species was introduced from Cumana, into the Botanic Garden, Glasgow, last year, and the specimen here figured received from that establishment, flowered in the stove of the Royal Botanic Garden, Edinburgh, in September and October, potted in ordinary garden mould. Grah.

DERIVATION OF THE NAME.

Trofæolum, from  $\tau\rho\sigma\pi\alpha\iota\sigma\nu$  a war-like trophy.

SYNONYMES.

TROPÆOLUM MORITZIANUM. Link, Klotzsch, and Otto, Icones Pl. Rar. Hort, Berol., t. 17. Bot. Mag. 3844.





Mes Withers del

Colontoglossum Rosse.

## ODONTOGLOS'SUM ROS'SII.

ROSS'S ODONTOGLOSSUM.

ENDOGENAS.

Natural division
to which
this Plant belongs.

MONOCOTYLEDONEA.

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSE, OF LINDLEY.



Artificial divisions to which this Plant belongs.





GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 222.

GENUS. Odontoglossum. Humb. et Kunth. Perigonii explanati foliola angusta, acuminata, libera, exteriora et interiora æqualia. Labellum unguiculatum, cum columnæ basi continuum ecalcaratum, indivisum, lamina, patente basi cristata. Columna erecta, membranaceo marginata, apice utrinque alata. Anthera bilocularis. Pollinia 2-solida, caudicula lineari, glandula hamata. Herbæ Americanæ, tropiacæ, epiphytæ, pseudobulbiferæ; foliis plicatis, scapo terminali vaginato, floribus speciosis. Enlicher; genera, p. 203.

SPECIES. Odontoglossum rossii (Lindley) pseudobulbis ovatis congestis subcompressis ancipitibus mono- vel duophyllis; foliis oblongo-lanceolatis; scapo radicali bi- vel triflora folio longiori; bracteis membranaceis carinatis acuminatis, sepalis lanceolatis carinatis acuminatis vel acutis: petalis oblongis revolutis: labello sub-rotundo-ovato emarginato undulato lamellis unguis confluentibus rotundatis denticulis, 2 columna aptera pubescente.

Character of the Genus, Odontoglossum. Perigonium explanate; leaflets narrow, acuminate, free, exterior and interior equal. Labellum clawed, continuous with the base of the column, spurless, undivided, lamina patent, crested at the base. Column erect, with a membranaceous margin winged on each side. Anthers two-celled. Pollen masses two, solid. Caudicula linear. Gland hooked.

Description of the Species, Odontoglossum rossii. Eppphyte, Plant from 6 to 8 inches in height. Pseudobulbs about an inch high, somewhat compressed, two-edged. Sheaths brown, scarious, longer than the pseudo-bulbs. Leaves sometimes solitary, sometimes in twos, lanceolate, striated, acute, erect or revolute, from three to six inches long and about an inch wide. Scape erect, about six inches high, producing from two to three flowers. Peduncles from two to three inches long. Bracts solitary, brown, varying in length from two to ten lines. Flowers about two inches in diameter. Sepals patent, or incurved, lanceolate-acute, of a greenish brown colour, in the inside beautifully banded with brown, on the outside spotted with the same colour. Petals white, ovate, lanceolate, obtuse, longer than the sepals, revolute, margin irregular, sometimes spotted at the base with brown, sometimes blotched with brown. Labellum white, unguiculate, ovately round, margin dentate or undulate, obtuse, unguis about three lines long. Lamellæ of the labellum yellow, cupshaped, fleshy, united in the fore part, about three lines long, striped in the centre with scarlet. Column curved, about six lines long, wingless, but membranaceous at the edges. Stigmatic cavity ovate, about half the length of the column, and tinted with pink at the margin. Anther 2-celled, beaked, the apex partaking of the same colour as the edge of the stigmatic cavity. Pollen masses two, pear-shaped, posteriorly sulcate. Caudicula linear. Gland hooked.

Popular and Geographical Notice. The genus Odontoglossum was made by Humboldt and Kunth from the collection of Orchideæ, collected by Humboldt and Bonpland during their travels in South America. It is, obviously, very nearly related to the genus Oncidium, from which it is not easily separated, unless you depend on the structure of the labellum and gland; the former of which is entire and unguiculate, the latter hooked.

The species composing this genus are natives of South America, and of which there are about twelve species known. Their flowers are handsome and showy. Although this is a very showy species, yet it is not equal in beauty to several species yet to be introduced into this country, such for instance as Odontoglossum nebulosum, whose flowers are stated to be in circumference nine inches, and Odontoglossum Cervanteii, which approach those of our present species, but are much larger and richer tinted. There is probably little doubt that from the exertions of Baron Hartweg, who has been exploring the nucleus of these plants, viz. Oxaca, at the expense of the London Horticultural Society, that if they are not at present in that collection, they shortly will be.

Introduction; Where grown; Culture. This plant was imported from Mexico in the year 1837, by George Barker, Esq. where it was found by his collector, Mr. Ross. Our figure was taken from a plant in the collection of the London Horticultural Society.

It should be cultivated in a warm and damp stove, and may be potted in the same way as other species of this tribe; or if preferred, it may be put on a piece of wood, and suspended from the top of the stove, as many other epiphytes. Its propagation is similar to many others—merely dividing the pseudobulbs.

West.

#### DERIVATION OF THE NAMES.

The generic name Odontoglossum is from Oδους a tooth, γλωσσα a tongue, in reference to the toothings at the base of the labellum: the specific name Rossii is in compliment to Mr. Ross, the collector of G. Barker, Esq. in Mexico.

SYNONYME.

ODONTOGLOSSUM ROSSII. Lindl. Bot. Reg. N. S. 1839, t. 48.





. Harcellin docus sala.

# MARCE'TIA DECUSSA'TA.

CROSS-LEAVED MARCETIA.

EXOGENÆ.

OR

DICOTYLEDONE A.



Natural division to which this Plant belongs.





NATURAL ORDER, MELASTOMACEÆ.

OF
DECANDOLLE.



Artificial divisions to which this Plant belongs.





OCTANDRIA, MONOGYNIA OF LINNEUS.

No. 223.

GENUS. Marcetia. Decandolle. Calycis tubus oblongus aut cylindraceus, lobis 4, lanceolatis. Petala 4, ovalia (ovata) acuta. Stamina 8, æqualia (subæqualia); antheris basi bituberculatis, oblongis, 1-porosis. Ovarium liberum, glabrum. Stylus filiformis. Stigma punctiforme. Capsula 4-valvis, 4-locularis, calycis tubo circiter æqualis. Semina cochleata. Suffrutices Brasilienses. Rami teretes. Folia subcarnosa, oblonga, margine sæpius revoluta, basi cordata, brevissime aut vix petiolata, integerrima, sæpe encrvia. Flores axillares, solitarii, subsessiles, bibracteati, albi aut subrubentes. Decandolle Prodr. 3, 124.

SPECIES. Marcetia decussata (Decandolle) fruticosa, ramosa; foliis sessilibus, subcordatis, ovatis, obtusiusculis, integerrimis, basi trinervis, cum ramulis calycibusque pubescenti-velutinis; floribus axillaribus, pedicellatis, 8-andris; calyx lobis lanceolato-subulatis tubo vix brevioribus, petalis ovalibus, acutis; genit. longe exsertis. D.C. l.c.

Character of the Genus, Marcetia. Tube of the calyx, oblong or cylindrical, with four lanceolate lobes. Petals 4, oval (ovate) acute. Stamens 8, equal, (subequal); anthers with two tubercles at the base, oblong, opening by a single pore. Ovarium free, glabrous. Style filiform. Stigma minute. Capsule 4-valvular, 4-celled, nearly equal to the tube of the calyx. Seeds cochleate.

Description of the Species, Marcetia decussata. Shrub erect (nine inches high in the specimen described, but from native specimens evidently attaining the size of a small bush.) Stem much branched, round; bark brown, cracked, and exfoliating; branches erect; twigs four-sided, glanduloso-pubescent. Leaves (3\frac{3}{4}\text{ lines long}) ovate, spreading, mucronulate, 3-nerved, pubescent on both sides, also with short tomentum below, dark green above, paler below, entire and revolute in the edges, middle-rib channelled in front, prominent behind. Flowers small, solitary, axillary, on pedicels shorter than the leaves, about the middle jointed, and there having two opposite leaf-like bracts, above this point turgid when in fruit. Perhaps it would be more correct to consider all below the joint a short axillary branch, with two leaves at the apex, and a terminal ebractiate single-flowered peduncle. Calyx urceolate, glanduloso-pubescent, without bracteoles, or rarely a small one, 4-toothed, teeth spreading, subulate,

more than half the length of the tube. Corolla 4-petalled, spreading between the teeth of the calyx, and fully three times as long as them, pale rose-coloured, slightly blotched, ovato-lanceolate, with a small deflected mucro, inserted into the throat of the calyx, glabrous. STAMENS 8, inserted into the throat of the calyx, alternately opposite to and between the petals; filaments subequal, erect, scarcely inclining to one side of the flower, glabrous, colourless, equal in length to the petals, but as these are spreading the stamens project far beyond the corolla, jointed at about two-thirds of the height, and there when in bud folded forwards; anthers at first orange-coloured, afterwards yellow, about half as long as the filaments, slightly declined, without crenatures in front, opening by one terminal pore, having at the base two small rounded auricles, which are rather larger in the longer sta-STYLE filiform, rather longer than the stamens, and slightly deflected to the opposite side of the flower from them. nute. Germen superior, ovate, truncated, nearly as long as the calvx, with eight small teeth on its apex, 4-celled. Ovules very numerous, attached to central placentæ, cochleate.

Popular and Geographical Notice. The genus Marcetia was established by Decandolle, and the species, believed to be all from Brazil. A plant believed to be one of his species, has been found by Schomburgk to extend to British Guiana. I believe Mr. Bentham has inadvertently referred to Gardner's Specimens, No. 1288, as identical with Schomburgk's, No. 1040. The desquamation of the cuticle of the stem and branches, and a remarkable enlargement of the fruit-bearing pedicels above the bracts in Gardner's Plant, are not observed in Schomburgk's. I have no doubt of Gardner's, No. 1288 being identical with the plant now described. Several of the species of Marcetia grow at considerable elevations on the mountains; the one now described is found in Bahia, at an elevation of 2000 feet. It is a small tidy shrub, flowering freely, and during a considerable period.

Introduction; Where grown; Culture. The species described, the first in cultivation in Britain, was raised at Mr. Cunningham's nursery, Comely Bank, near Edinburgh, from seeds sent from Brazil, by Mr. Gardner. It has been kept in the stove, and one plant placed lately in the greenhouse, stands there in October without injury. It has required no particular management and has flowered in September and October abundantly.

DERIVATION OF THE NAME.

Marcetia in honour of Dr. Marcet, to whom we owe some extremely interesting observations on the effects of poisons on vegetables.

SYNONYMES.

MARCETIA DECUSSATA. Decandolle, l. c.

RHEXIA DECUSSATA. Mart. and Schrank. M. S. fide D C.

Gardner's specimens from Alagoas, No. 1288.





Tripletion spenosum.

# TRIPTIL'ION SPINO'SUM.

SPINY TRIPTILION.

OR

EXOGENA.

Natural division to which this plant belongs.

W - W

DICOTYLEDONE A.

NATURAL ORDER, COMPOSITÆ.

OF DECANDOLLE.





Artificial divisions to which this Plant belongs.





SYNGENESIA, ÆQUALIS OF LINNEUS.

No. 224.

GENUS. TRIPTILION. RUIZ ET PAVO. CAPITULUM quinqueflorum. homogamum. Involucri biseriati, floribus brevioris foliola decem, carinata, spinula terminata, exteriora patentia, coriacea, interiora erecta, margine scariosa. Receptaculum epaleatum, piloso-fimbrilliferum. Corollæ bilabiatæ. labio exteriore multo latiore, tridentato, interiore bidentato vel bifido. THERÆ caudatæ. Achenia erostria, obpyramidata, costato tri-tetraquetra, pilosa vel glaberrima. Pappi uniseriati, longi aleæ ternæ quinæ, latæ, subconduplicatæ, apice recurvo longe fimbriatæ vel ciliatae, intus sæpius HERBÆ chilenses, erectæ, humiles : foliis rigidæ membranaceis, alternis, sessilibus, varie pinnatifidis, lobis spinescentibus, superioribus semiamplexicaulibus, capitulis fasciculatis vel glomeratis, cœrulescentibus. LICHER. Genera Plantarum, p. 496.

SPECIES. Triptilion spinosum. (Reuz et Pavo.) Caule herbaceo ad apicem corymboso pubere, foliis pinnatilobatis, lobis in mucronem spinosum desinentibus. Decandolle. Prodromus. Pars VII, p. 51.

Character of the Genus, Triptilion. Capitule five-flowered, homogamous. The involucre shorter than the flowers, consisting of ten carinate folioles, terminated by a spine, and arranged in a double series, the outer ones spreading, and coriaceous, the inner ones erect, and scarious at the margins. Receptacle destitute of paleæ or scales, but bearing short hairs or fimbriæ. The Corolla two-lipped, the outer lip much broader, three-toothed, the inner two-toothed or two-cleft. Anthers furnished with a tail. Achenia (fruit) without a beak, obpyramidal, owing to its elevated ribs three or four-square, pilose, or quite smooth. Pappus in one row, very long, consisting of three or five broad, subconduplicate stalks, recurved at the apex, with long fimbriæ, or ciliae, often downy or hairy in the inner side.

Description of the Species, Triptilion spinosum. Herb very much branched, branches squarrose. Stems two feet high, numerous, decumbent, flexuose, slender, round, stiff, every where covered copiously with hairs. Leaves scattered, sessile, lanceolate, revolute at the margin, universally hairy, cartilaginous, dry, from half an inch to an inch in length, with a prominent rib on the under surface, but otherwise veinless, the lower ones pinnatifid, the upper ones incisedly toothed, or rarely entire, the segments few, lanceolate,

they, as well as the apex of the leaf, armed with a long stiff spinous point. Flowers very much crowded together in a fasciculated INVOLUCRE imbricated, unguiculate; the squamæ and bracts lanceolately subulate, the top consisting of a lengthened spreading three-cornered spiny mucro. RECEPTACLE dotted, thickly clothed with villous hairs. FLORETS five, hermaphrodite, forming a very short ray, of a most beautiful and enduring blue colour, the outer lip roundish, oval, spreading, concave beneath, obtusely three-toothed, the interior of a pale yellow, bipartite, revolute, twice as short as the exterior; segments linear, lanceolate, obtuse, agglutinate at the margins. Anthers terminated by an acute lanceolate appendage, blue at the top, having at the base two petals; the setæ simple, naked, attenuated. Stigmatwo-parted; segments linear, convex below; the apex spreading truncate, minutely papillose. ACHENIA obpyramidally threecornered, attenuated at the base, smooth. Pappus exerted, of a snowy white, and most beautiful appearance; consisting of three rays, paleaceous, linear, canaliculate, caducous, the top recurvately spreading, forming a feathery pencil.

Popular and Geographical Notice. This genus consists of herbaceous plants, natives of Chili. The present species has a considerable geographical range, being found near Valparaiso, the city of Conception, and as far south as between Valdivia and Osoro, in fields and plains. It is extremely well worth cultivating, not only from contrast of colour of the outer and inner lip of the corolla, but on account of the enduring nature of the colour of the flowers, which renders it a very great favourite with the inhabitants of Chili, who term it Siempreviva, and employ it extensively for ornamental purposes. It is remarkable that the part of the corollas which is blue, instantly becomes white on immersion in warm water. It has other claims to regard, for being intensely bitter, it proves a valuable remedial agent in many diseases.

Introduction; Where grown; Culture. It was first raised in this country in 1827. The specimen drawing was obligingly sent to us in July. by Mr. Philip Frost, from the garden of the Countess of Grenville, at Dropmore; and is now, at the end of twelve months, as brilliant in colour as when gathered. It has tuberous roots, should be repotted after flowering, in sandy loam and leaf mould; and kept in a cool greenhouse.

DERIVATION OF THE NAMES.

Triptilion, from Tous three, and  $\pi\tau\iota\lambda o\nu$  a plume, alluding to the soft feather-like character of the pappus or seed down. Spinosum, from spina a thorn, alluding to the pointed termination of the leaves.

SYNONYME.

TRIPTILION SPINOSUM. Ruiz and Pavon: Systema Veget. 1, 185. NAUSSAUVIA SPINOSA. Don in Philos. Mag. 1832, p. 390. TRIPTILION LACINIATUM. Wild. sp. III, p. 1628.





#### HIBIS'CUS SPLEN'DENS.

SPLENDID HIBISCUS.

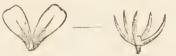
EXOGENÆ.

OR

DICOTYLEDONEÆ.



Natural division to which this Plant belongs.



NATURAL ORDER, MALVACEÆ.

OF DECANDOLLE.





Artificial divisions to which this Plant belongs.





MONADELPHIA, POLYANDRIA, OF LINNEUS.

No 225.

GENUS. Hibiscus. Linnæus. Involucellum polyphyllum, foliolis simplicibus, vel bifurcatis. Calyx quinquefidus, persistens, foliolis æstivatione valvatis. Corollæ petala 5, hypogyna, obovata-inæquilatera, unguibus imo tubo stamineo adnata, æstivatione convolutiva. Tubus stamineus columnæ-formis, infra apicem nudum, truncatum v quinque dentatum, filamenta plus minus copiosa exserens. Antheræ reniformes, bivalves. Ovarium sessile, simplex, quinqueloculare. Ovula in loculis plurima, v pauca angulo centrali inserta. Stylus terminalis, apice exserto quinquefidus; stigmata capitellata, rarissime cohærentia. Capsula quinquelocularis, loculicide quinquevalvis, valvis medio margine septa seminifera gerentibus, columclla centrali nulla. Semina plurima v interdum aborta panca, adscendentia, reniformia, testa crustacea, nuda aut squamulosa vel interdum lanata: Embryo intra albumen parcissimum mucilaginosum homotrope arcuatus; cotyledonibus foliaceis, sesse plicato-involveutibus, radicula infera. Endlicher; Genera Plantarum, p. 989.

SPECIES. Hibiscus splendens (Frazer, MSS) frutex, aculeis rectis basi tuberculatis, corolla expansa extrosum costis pluribus flexuosis tomentosis, calyce 5-fido laciniis acutis, 3 nervibus carinatis, involucro multipartito laciniis lineari-subulatis interdum ramosis calyce paulo brevioribus, pedunculo supra medio obliquæ articulata to, folii palmatis 3.5 lobatis, lobis lanceolatis. Grah.

CHARACTER OF THE GENUS, HIBISCUS. INVOLUCELLUM manyleaved, leaves simple, or forked. CALYX five-parted, persistent, valvate in æstivation. Petals of the corolla five, situate on the receptacle, unequally obovate, being joined by ungues to the base of the stamineous tube, convolvate in æstivation. Stamineous tube columnlike, naked beneath the apex, truncate, or five-toothed, putting forth filaments more or less abundant. Anthers reniform, two-valved. OVARIUM sessile, simple, five-celled. Ovules many or few in the cells, inserted on the central angle. STYLE terminal, the apex projecting with five divisions. STIGMAS in very little heads, rarely cohering. Capsule five-celled, and five-valved, valves bearing septa, containing the seeds on the middle of their margin, no central SEEDS many, or sometimes from abortion few, rising upwards, kidney-shaped, testa crustaceous, naked or in scales, or sometimes woolly. Embryo curved in the direction of the seed, within a very small mucilaginous albumen; cotyledons leafy, plicately folded, radicle inferior.

DESCRIPTION OF THE SPECIES, HIBISCUS SPLENDENS. STEM round, from four to twenty-two feet high, clothed with stellate pubes-

cence, amongst which are scattered tubular prickles, arising from callous glandular bases, red on the young shoots, green on the old. Branches axillary, round, ascending. Leaves six inches long, from four to six inches broad, palmately divided into three or five lobes, underneath strongly reticulated, thickly covered on each side with a harsh stellate pubescence, lobes lanceolate, irregularly dentate, ribs prominent, more or less aculeate. Petioles in the upper leaves from two to three inches long, roundish, and aculeate, similar to the STIPULES about an inch long, green, subulate, linear, free, exteriorly pubescent. PEDUNCLE solitary, longer than the petiole, single-flowered, and bent a little from the calyx. Involucre about the length of the stipules, segments linear, subulate, sometimes branched. Calyx yellowish, divided into five segments, somewhat longer than the involucre, exteriorly pubescent, segments tapering, threenerved, the centre forming a strong keel. Corolla unexpanded about three inches in length, when fully expanded from five to six inches in PETALS five, obovate, of a most delicate rose colour, nerves flexuose, prominent on the outside, and pubescent. STAMENS numerous, united, filaments pale towards the base, in the upper part rose-coloured. Anthers a dark crimson, arranged in the form of Pollen large, spherical, hispid. Style about an inch long, projecting about a quarter of an inch beyond the conical combined anthers. GERMEN five-celled, covered with silky pubescence. Ovules numerous, each cell containing two. SEEDS greenish, angular, wrinkled, and warty.

Popular and Geographical Notice. The order Malvaceæ is, for the most part, tropical, and in regions of high temperature the species revel in all their beauty. The present plant, as stated under No. 212, is one of the most beautiful of the genus. It is a native of New Holland, where, says its discoverer, Mr. Frazer, it is so beautiful that it is considered the King of all known Australian plants, that its flowers are nine inches across, and so profuse a flowerer is it, that they literally cover the entire plant.

Introduction; Where grown; Culture. This species was raised from seeds sent to this country by Mr. Frazer, in the year 1828, from which flowering plants were raised in 1830. Our drawing was taken from a plant in the collection of the Birmingham Horticultural Society. It may be propagated either by seeds, or by cuttings. Its soil should be sand, loam, and peat.

DERIVATION OF THE NAME.

Hibiscus, from ibiorog, the Greek name of a plant nearly allied to this genus. Splendens, in allusion to its elegant inflorescence.

SYNONYMES.

Hibiscus splendens. Bot. Mag. t. 3025. Bot. Reg. t. 1629. Flor. Cab. Vol. 1, t. 22. Graham, Edin. Philos. Jour. p. 176. F. W.



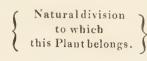


### EPIDEN'DRUM NU'TANS.

NODDING EPIDENDRUM.

ENDOGENÆ.





1-1

MONOCOTYLEDONE A.

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.



Artificial divisions to which this Plant belongs.





GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 226.

GENUS. Epidendrum. Linneus. Perigonii foliola exteriora patentia, subæqualia; interiora æqualia vel angustiora, aut rarius latiora. Labellum ungue cum marginibus columnæ omnino vel partim concretum, limbo integro vel partito, disco sæpius calloso, costato vel tuberculato, interdum in calcar ovario adnatum productum. Columna elongata, clinandrio marginato, sæpius fimbriato. Anthera carnosa, bi-quadrilocularis. Pollinia quatuor, caudiculis totidem replicatis. Herbæ Americanæ tropicæ, epiphytæ; caule nunc basi vel apice pseudo-bulboso, nunc elongato, apice folioso, foliis carnosis vel rarissime striato-venosis, floribus spicatis, racemosis, corymbosis vel paniculatis, terminalibus lateralibus. Endlicher: Genera Plantarum. 193.

SPECIES. EPIDENDRUM NUTANS (SWARTZ) FOLIIS oblongis distichis undulatis obtusis, racemo nutante multifloro, sepalis oblongo-lanceolatis petalisque lineari-lanceolatis obtusis patentibus, labelli trilobi lobis lateralibus cordatis ovatis: intermedio transverso truncato apiculato basi bicalloso venis tribus elevatis. LINDLEY.

Character of the Genus, Epidendrum. External folioles of the perigone spreading, nearly equal; the internal equal, or narrower, very seldom broader. The Labellum, by means of its claws, either entirely or partly cohering to the margins of the column, the limb entire or divided, the disc generally callous, ribbed, or tuberculated; the limb is also occasionally prolonged into a spur, adhering to the ovary. Column elongated, clinandrium margined, often fimbriated. Anther fleshy, two-four-celled. Pollen-masses four, with a similar number of double tails.

Description of the Species, Epidendrum nutans. Epiphyte. Stem simple, round, leaves distichous, undulating, obtuse. Inflorescence racemose, nodding, many-flowered. Flowers of a whitish green colour, the external folioles oblong-lanceolate, the internal linear-lanceolate, obtuse, spreading; labellum three-lobed, lateral lobes cordate and ovate, the central lobe truncated, apiculate, having two callous.

points at the base, and three elevated veins. Ovary cohering with the prolonged spur of the labellum, so as to form a cuniculus.

Popular and Geographical Notice. The very extensive genus Epidendrum, containing nearly one hundred species, is peculiar to the New World, more especially the Southern part of America, and the West Indian Islands; several are natives of Mexico, but scarcely any extend farther North; yet the only epiphyte in the United States belongs to this genus, viz. Epidendrum conopseum (Robert Brown), which is found on the Magnolias of Carolina and Georgia, and hence sometimes called Epidendrum Magnoliæ. The species now figured grows on trees among the mountains of the Western side of the island of Jamaica, Many species of Epidendrum are remarkable for the exquisite odour of their flowers, which they are most apt to diffuse in the evening or during the night. Of such is the one now before us, which is thus among the number of the plants

"That keep
Their odour to themselves all day,
But when the sun-light dies away,
Let the delicious secret out,
To every breeze that roams about."

MOORE.

Introduction; Where grown; Culture. Brought to England in 1793. The plant from which our drawing was made flowered in the rich collection of the Messrs. Loddiges, at Hackney. It grows in a pot on the stage of the stove, and requires sandy loam, with a large quantity of potsherds at the bottom, to ensure free drainage, which is the great requisite of these plants; or it may be suspended from the roof, attached to a branch.

#### DERIVATION OF THE NAMES.

Epidendrum, from  $\epsilon \pi \iota$  upon, and  $\delta \epsilon \nu \delta \rho o \nu$  a tree, the habitat being on the stems or branches of trees. Nutans, from the nodding appearance of the group of flowers.

#### SYNONYMES.

EPIDENDRUM NUTANS. Swartz: Prodromus descriptionum vegetabilium Indiæ oceidentalis, 121. Flora Indiæ oceidentalis, t. 1499. Willdenow: No. 13. Hooker: Exotic Botany, I, t. 50. Lindley: Genera and species of Orchideous plants, p. 105,





### SIPHOCAM'PYLUS REVOLU'TUS.

REVOLUTE SIPHOCAMPYLUS.

EXOGENÆ.

Natural division to which this plant belongs.

W-W

DICOTYLEDONEÆ.

NATURAL ORDER, LOBELIACEÆ.

CALYCIFLORÆ, OF DECANDOLLE.





Artificial divisions to which this Plant belongs.



PENTANDRIA,
MONOGYNIA,
OF LINNEUS.

No. 227.

GENUS. SIPHOCAMPYLUS. POHL. CALYX tubo obconico turbinato vel hemisphærico, cum ovario connato, limbo libero quinquefido. Corolla summo calycis tubo inserta, tubulosa, tubo integro, incurvo vel rarius recto, limbi quinquefidi, bilabiati, laciniis subæqualibus vel duabus superioribus paulo longioribus. Stamina quinque, cum corolla inserta, filamenta et antheræ, quarum duæ inferiores, vel omnes, apice barbatæ vel mucronatæ, connata. Ovarium inferum, vertice breviter exsertum, biloculare. Ovula in placentis carnosulis dissepimento utrinque longitudinaliter adnatis plurima, anatropa. Stylus inclusus, stigma exsertum bilobum, lobis divaricatis orbiculatis. Capsula bilocularis, vertice exserto loculicido bivalvis. Semina plurima, minima, scrobiculata. Embryo in axi albuminis carnosi orthotropus, radicula umbelico proxima, centripeta. Suf-FRUTICES Americani tropici; folis alternis vel oppositis, petiolatis, serratis; FLORIBUS axillaribus solitariis, pedicellatis, rarius in racemum vel corymbum approximatis, rubris. Endlicher. Genera Plantarum, p. 511, No. 3859.

SPECIES. Siphocampylus revolutus (Graham) caule tereto crecto, parce ramoso, ramis villosis, flexuosis; foliis alternis, breviter petiolatis, rugosis, rigidis, cordato-ovatis, acuminatis, superioribus apice revolutis, supra scabrosis, subtus pubescentibus, marginibus reflexis, simpliciter dentatis; pedicellis folio brevioribus, tubo calycis turbinato-hemisphærico, lobis subulatis divergentibus dimidio breviore; corolla calycibus 5<sub>o</sub> longiore, externe villosiusculo, tubo basi apiceque constricto, limbo subæqualiter 5-fido, lobis lanceolatis superioribus rectis, aliis reflexis, interne pilosiusiculis.

CHARACTER OF THE GENUS, SIPHOCAMPYLUS. CALYX with an obconical top-shaped or hemispherical tube, adhering to the ovarium, the limb being free and quinquefid. Corolla inserted into the top of the calyx tube, tubular, with an entire incurved or rarely straight tube, the segments of the five-cleft bilabiate limb subequal, or the two STAMENS five, inserted along with the upper slightly longer. corolla; filaments and anthers, of which the two lower, or the whole, are bearded or mucronate at the apex, connate. Ovary inferior, slightly superior at the apex, bilocular. Ovula numerous, upon somewhat fleshy placentæ attached to each side of the dissepiment, STYLE included; stigma exserted, two-lobed, lobes divaricated, round. Capsule bilocular, free at the apex, loculicidal, bivalvular. Seeds very numerous, minute, scrobiculate. in the axis of fleshy albumen, orthotropous, radicle towards the umbilicus.

DESCRIPTION OF THE SPECIES, SIPHOCAMPYLUS REVOLUTUS. Stem erect, round, sparingly branched, branches zigzag, villous, green. Leaves alternate, on short stout channelled petioles, rigid, wrinkled. spreading wide, dark green and rough, with very short hairs above, lighter and villous below, cordato-ovato, acuminate, the apex of the upper ones revolute, the edges reflexed, simply dentate; middle rib and veins very prominent below, channelled above. PEDUNCLES solitary, axillary, erect, half as long as the leaves, villous, without bracts. Calyx green, villous; tube turbinato-hemispherical, with 10 strong ribs, and as many round glands between the apices of these; limb 5-partite, segments twice as long as the tube, subulate, diverging at the apex. COROLLA five times as long as the calyx, purplish red; tube entire, slightly deflexed, contracted at the throat, and for a space equal to the length of the calyx segments at the base, where it is deeply marked by five grooves, in the centre inflated and compressed laterally; limb five partite, segments subequal, linear-lanceolate, acute, slightly hairy within, the two upper straight and paler within, the lateral ones spreading or reflexed, slightly falcate downwards, the lowest revolute, and, as well as the lateral ones, nearly white. STAMENS as long as the corolla; filaments inserted along with this into the top of the calyx, adhering to the tube as far up as the extent of the contracted portion at the base, above this uniting into a tube, red and glabrous; anthers lead-coloured, cohering into a curved tube, the two lower bearded with white hairs at the apex, the three upper having a very few similar hairs in their commisures. STYLE encased by the stamens, projecting beyond the anthers, glabrous, red. Stigma of two blunt, revolute lobes. Germen inferior, green, glabrous, and with a free conical apex, bilocular. Ovules very numerous, small, on large central placentæ.

POPULAR AND GEOGRAPHICAL NOTICE. This beautiful genus is entirely American, and scarcely passes without the tropics, but is found on both sides of the line. I do not know from what part the seeds of the present species were introduced. It is a true example of the genus, and altogether unlike the plants known in cultivation as Siphocampylus bicolor (t. 139) and S. Cavanillesii (t. 234), which are true Lobelias.

Introduction; Where grown; Culture. Seedling plants were received at the garden of the Caledonian Horticultural Society, from Mr. Low, of Clapton, in September, 1839. They grew to the height of five feet last year, in the stove, without flowering; cuttings were formed, these rooted readily, and, when of a small size, flowered in February, 1841. We possess the plant at the Botanic Garden, also from Mr. Low. It is kept in the Greenhouse, and is very healthy, but has not yet come into flower. It requires no particular soil or treatment.

DERIVATION OF THE NAMES.
Siphocampylus, from σιφων a tube, and καμπυλος curved, in allusion to the bent tube of the corolla.

GRAH.





## CORYAN'THES MACULA'TA.

SPOTTED CORYANTHES.

ENDOGENÆ.





Natural division to which this Plant belongs.

MONOCOTYLEDONEÆ.

NATURAL ORDER, ORCHIDACEÆ.

GYNANDROSÆ, OF LINDLEY.





Artificial divisions to which this Plant belongs.





GYNANDRIA, MONANDRIA, OF LINNEUS.

No. 228.

GENUS. Coryanthes. Hooker. Perigonii patentissimi foliola exteriora dilatata, flexuosa, conduplicata, lateralia maxima, basi distincta, interiora multo minora, erecta. Labellum calumnæ basi continuum; unguiculatum, maximum, galeatum, tridentatum, in medio unguis appendice poculiformi circumdatum. Columna elongata, teres, basi bicornis, apice recurva, bialata; stigmate transverso rimæformi. Anthera bilocularis. Pollinia duo, compressa, postice sulcata, candicula lineari arcuata, glandulæ lunatæ apicibus recurvato-approximatis.—Herbæ Americanæ tropicæ, epiphytæ, pseudobulbosæ; foliis striatis, racemis pendulis, floribus maximis. Endlicher Genera Plantarum, p. 199.

SPECIES. Coryanthes Maculata (Hooker) Bulbo elongato, foliis latolanceolatis, racemis multifloris nutantibus, (labello intus purpureo-maculato.)

Character of the Genus, Coryanthes. The Perigone very greatly spread out, having the external folioles (sepals) dilated, flexuose, conduplicate, the lateral ones largest, distinct at the base; the interior folioles (petals) much smaller, erect. Labellum continuous with the base of the column, unguiculate, very large, helmet-shaped, three-toothed, in the middle of the claw surrounded by a cup-shaped appendix. Column elongated, round, two-horned at the base, the apex recurved, and two-winged, the stigma transverse resembling an opening. Anther two-celled. Pollen masses two, compressed, furrowed behind; the little tail linear, curved; the little glands crescent-shaped, with the points recurved and approximating.

Description of the Species, Coryanthes maculata. Pseudo-bulbs crowded, each about six inches long, striated, broad at the base, and tapering to a point whence spring two expanding broadly lanceolate striated leaves, of rather a membranous consistence. Scape nearly two feet long, springing from the base of the bulbs, at first taking a horizontal direction, ultimately pendulous, furnished with two or three remote scales. Inflorescence racemose. Pedicels supported by lanceolate bracts, which partially embrace them. Sepals membranous, thin, soon becoming flaccid, the upper one lanceolate,

acuminate, undulating, the lateral ones very large (about two inches and a half broad) free, contracted at the base, semi-cordate, when first expanded resembling the wings of a bat, afterwards becoming flaccid. Petals lanceolate, undulate, flexuose, directed towards the helmet of the lip. Labellum fleshy, two inches and a half long, unguiculate, spotted with yellow and purple; hypochilium dilated, the sides inflexed, helmet-shaped, rounded externally, passing into a narrow channelled mesochilium; the epichilium very large, less fleshy, helmet-shaped, the ovate apex inflexed. Column free, furnished at the base with two elongated horns which distil a liquid, the apex club-shaped and recurved, the margins prolonged into wings. Stigma with a transverse cleft.

POPULAR AND GEOGRAPHICAL NOTICE. The woods of Demarara have the trunks of the trees frequently ornamented with the pendant flowers of this most singular plant. As if to form a contrast with the nearly regular flower of the Paxtonia rosea, which we lately figured, the parts of the flower assume every possible peculiarity, rendering the spectator doubtful whether he be looking at a flower, insect, or a bird. "The lip is furnished near its base with a yellow cup, over which hang two horns constantly distilling water into it, and in such abundance as to fill it several times; this cup communicates by a narrow channel formed of the inflated margin of the lip, with the upper end of the latter, and this also is a capacious vessel very much like an old helmet, into which the honey that the cup cannot contain may run over." The object of this secretion probably is to attract insects or birds, which by the disturbance they cause in extracting the honied fluid, aid in the fertilization of the seeds. Robert Brown believes that many orchidaceous plants, except Ophrys and its kindred, are dependant on insects for accomplishing the process of fertilization. Humming birds, with their long slender bills appear likewise to contribute to this object, and their small size and lightness seem to fit them well for this office. (See Kalm's Travels in N. America, Vol. II, p. 354.)

Introduction; Where grown; Culture. Sent in 1829, by James Ankers, Esq. to C. S. Parker, Esq. Liverpool. Our specimen grew in the inexhaustible store of Messrs. Loddiges. It requires to be suspended in the damp stove.

DERIVATION OF THE NAMES.

Coryanthes, from  $\kappa o \rho \mu \varsigma$  a helmet, and  $\alpha \nu \theta o \varsigma$  a flower. Maculata, from maculata, spot.

SYNONYME.

CORYANTHES MACULATA. Hooker: Bot. Mag. t. 3102. Lindley, Botanical Register, t. 1793.





### BEGO'NIA NIT'IDA.

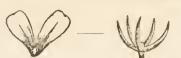
OR

SHINING BEGONIA.

EXOGENÆ.



Natural division to which this Plant belongs.



DICOTYLEDONEE.

NATURAL ORDER, BEGONIACE Æ.

MONOCHLAMYDEÆ, OF DECANDOLLE.



Artificial divisions to which this Plant belongs.





MONŒCIA, POLYANDRIA, OF LINNEUS.

No. 233.

GENUS. BEGONIA. LINNEUS. FLORES monœci. MASCULI. PERIGONIUM tetraphyllum, foliolis subrotundis, duobus exterioribus majoribus. plurima; filamenta brevissima, libera vel basi connata, antheræ extrorsæ, biloculares, loculi lineares, discreti, connectivi continui obtusæ margini adnati, longitudinaliter dehiscentes. Fæminei. Perigonium tubo triptero, cum ovario connato, limbi superi, quadrinovempartiti, persistentibus lobis pluriseriatim imbricatis. Ovula in placentis e loculorum angulo centrali bilamellatis plurima, anatropa. Stili tres, bifidi; stigmata crassa, flexuosa vel capitata. CAPSULA membranaceo-trialata, trilocularis, luculicide-trivalvis. plurima, minima, striata. Embryo in axi albuminis carnosi orthotropus. HERBÆ in Asia et America tropica indigenæ, foliis alternis, petiolatis, integris vel palmatilobis, basi sæpe cordatis, inæquilateris, integerrimis, dentatis vel mucronate-scrratis, stipulis lateralibus membranaceis deciduis, cymis axillaribus pedunculatis dichotomis, floribus albis roseis vel rubicundis. Endlicher. Genera, p. 941.

SPECIES. Begonia nitida (*Hortus Kewensis*) fruticosa erecta, foliis glaberrimis inæqualiter cordatis obsolcte dentatis, capsula ala maxima subrotunda. *Dryander*, Trans. Linnean Society of London, vol. I, p. 159.

Character of the Genus, Begonia. Flower monœcious. Staminiferous Flowers with the perigone of four segments, the folioles roundish, the two exterior large. Stamens numerous; filaments very short, free or united at the base, anthers extrorse, two-celled, cells linear, distinct, adherent to the obtuse margin of the continuous connectivum, dehiscing longitudinally. Pistiliferous Flowers having the tube of the perigone three-winged, united to the ovary, the limb superior, of from four to nine segments, the persistent lobes imbricated in several rows. Ovary inferior, three-celled. Ovules numerous, anatropous, attached to placentæ, formed of two plates, springing from the central angles of the cells. Styles three, two-cleft; stigmata thick, flexuose or capitate. Capsule triangular, from three membranaceous wings, three-celled, splitting by a loculicidal dehiscence into three valves, Seeds numerous, small, striated. Embryo orthotropous, in the axis of a fleshy albumen.

DESCRIPTION OF THE SPECIES, BEGONIA NITIDA. STEM inclined to be woody at the lower part, upper rather fleshy and succulent, round, branched, remarkably smooth, and, as well as the under surface 57.

of the leaves, shining. Leaves alternate, petiolate, stipulate. PULES sessile, oblong, acuminate, deciduous. Leaves somewhat fleshy, very smooth, persistent, very unequally cordate at the base, the one lobe being twice the size of the other, so that the leaf is very oblique, acute at the apex, margin irregularly and obscurely toothed, the young leaves pinkish at the margin, seven-nerved, nerves not very conspicuous on the upper, very distinct on the under surface, upper surface of a light green, under of a bright or pearly white (owing to great inequalities, of the surface). PEDUNCLES dichotomous, with opposite bracts under the forks, and at the pedicels; bracts semiamplexicaul, ovate, erect, of a pinkish colour. Flowers monœcious. STAMINIFEROUS FLOWERS placed lowest in the cyme, spreading, two external longer, opposite, roundish, inseparable from the pedicels, two internal smaller, attenuate at the base, narrower but not shorter than the external ones. STAMENS numerous, short, erect; anthers oblong, erect, two-celled, yellow. Pistilliferous Flowers at the top of the cyme. Perigone having the tube three-winged, two folioles in an outer whorl, five in a double series, of unequal dimensions. Ovary inferior or only semi-adherent. STYLES three, short, divergent. STIGMATA divided, large, spiral, pubescent, yellow. Capsule triangular, three-winged, wings unequal, the third being very long, threecelled. SEEDS very numerous, small, brown, and very much pitted.

POPULAR AND GEOGRAPHICAL NOTICE. This species of Begonia is a native of the mountains of Jamaica. The geographical destribution has already been given (Botanist, vol. III, t. 103, and V, t. 217). The affinities of the order have also been discussed, without any satisfactory conclusion being formed. The analogy of properties is in favour of the Polygoniaceæ. Begonia grandiflora and Begonia tomentosa have bitter astringent roots, which are used in Peru in hæmorrhages and scorbutus, like Bistort with us. Begonia odorata and Begonia suaveolens are fragrant, like Polygonum odoratum. Rheum ribes yields in the East a cooling drink, a similar one is prepared in Brazil from several species of Begonia. Oxalate of potass is obtained from several species of Rumex, so likewise from many Begonias. Rumices are used as sorrels, and the leaves of this species are known in Jamaica, and those of Begonia obliqua in Martinique as the "Sorrel of the woods." While in Brazil the leaves of Begonia ulmifolia, bidentata, spathulata, cucullata, and hirtella, are all used as cooling salads; lastly the root of Begonia obliqua is called "wild rhubarb".

Introduction; Where grown; Culture. Brought to England in 1779. Our plant grew in the very fine collection of John Allcard, Esq., Stratford, near London, to whose courtesy we are much indebted. It grows in the conservatory, and is easily propagated by cuttings.

Begonia nitida. Hortus Kewensis.

OBLIQUA. Heretier, Sterpes Novæ.





# GONOL'OBUS HIS'PIDUS.

HISPID GONOLOBUS.

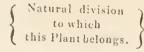
EXOGENÆ.

OR

DICOTYLEDONE A.









NATURAL ORDER, ASCLEPIDACEÆ.

COROLLIFLORE, DECANDOLLE.





Artificial divisions



GENUS. GONOLOBUS, RICHARD. CALYX quinquepartitus. Corolla subrotata, quinquepartita. Corona staminea scutelliformis, lobata. appendice membranacea terminatæ transversim dehiscentes. Pollinia transversa extremitati exteriori affixa. Stigma depresso planiusculum. Folliculi patentes, ventricosi, subcostati, semina plurima, ad umbilicum comosa. Suf-FRUTICES volubiles, in America boreali et tropica crescentes; foliis oppositis, lutiusculis, umbellis interpetiolaribus. Endlicher, Genera, page 595.

SPECIES. Gonolobus hispidus. (Hooker) Suffruticosus, volubilis, foliis cordato-ovatis, acutis, undulatis, caule petiolis pedunculisque hispidissimo-

hirsutis; floribus umbellatis, corollis coriaceis, intus basi tuberculosis.

CHARACTER OF THE GENUS, GONOLOBUS. CALYX five-parted. Corolla somewhat wheel-shaped, five-parted. Corona stamineous, scutelliform-lobed. Anthers terminating with a membranaceous appendage, dehiscing transversely. Pollinia transverse, fixed to the exterior extremity, Stigma flattish. Follicles patent, ventricose, somewhat ribbed. SEEDS many, comose to the umbilicus.

DESCRIPTION OF THE SPECIES, GONOLOBUS HISPIDUS. STEM suffruticose, round, somewhat twining, clothed with long, soft, yellowish hispid hairs. Leaves opposite, petiolate, membranaceous, of a pale green colour, ovate, cordate, or orbicular, the upper ones acute, undulate, and ciliate, each side smooth, with the exception of the veins on the under side, which are prominent. Petioles from a quarter to half an inch long, covered with hairs, similar to those on the stem. PEDUNCLES axillary, hairy, scarcely as long as the petioles. FLOWERS from four to ten, umbellate. Pedicels hairy, about half as long as the peduncles. Bracts subulate, about the length of the pedicels. CALYX smooth, about one third the length of the corolla. COROLLA from half to three quarters of an inch in diameter, rotate, concave, of a thick coriaceous leathery texture, and of a dark shining brownish purple colour, divided into five equal ovate acute parts, in the exterior of which, at the base, are small raised points. Nectaries of five erect dark, purple, fleshy, bifid, scales from the base of the corolla; within these appendages are arranged the five stamens, which are united into a very thick stipes. Anthers five, extrose, two-celled, between which are found two small diverging lobes. Pollen masses two, compact, waxy, yellow. Ovarium inferior, ovules numerous.

POPULAR AND GEOGRAPHICAL NOTICE. The species which compose this genus are not of a showy character, indeed many of them are no better than rambling weeds, and not worth cultivating; such are for example, Gonolobus maritimus, and Gonolobus diadematus. Perhpas for beauty there has not been introduced a more attractive species than the one now figured, as each umbel contains from eight to ten blossoms, having a diameter of from two to three inches, which are arranged in the axils of the leaves, alternate on each side of the stem, at a distance of about three inches; and so freely are its flowers produced that they commence at about eighteen inches from the ground, and continue to the height of several feet. The flowers, however, are not of an attractive, brilliance, being of a dark brown purple colour; but it has a powerful and concentrated fragrance, of so singular a description that it has been compared, by Sir W. J. Hooker, to the flavour of roasted peas. The number of described species at present introduced amounts to about thirty, all natives of South, and the warmer parts of North, America: the locality of our present species is Entre Rios, South Brazil.

If, however, the species of this genus are not showy, they are, together with the whole of the natural order Asclepiadaceæ, very singular in structure, so much so that they differ from all other dicotyledones or exogens, and are more related in their sexual structure to the Orchidaceæ, as may be witnessed in the compact waxy texture of the pollen masses, and which are found so uniformly in the Asclepiadaceæ proper. On the relation of Asclepiadaceæ to Orchidaceæ some interesting observations have been published, by Dr. then Mr. Brown, to which the reader is referred.

Introduction; Where grown; Culture. Our plant was introduced into this country in the year 1837. It was sent, in that year, by Mr. Tweedie, to the Glasnevin Garden, in which establishment it flowered in 1839, at which time our drawing was there taken.

Is is treated as a stove plant, but, probably, it will stand our winters in a sheltered situation, against a warm wall, on the southern coast; where, if trained, it will flower in much greater perfection than remaining in a pot; and its lurid flowers will form a striking contrast to many other climbers. It may be propagated by cuttings, placed under a hand-glass in a stove; and when potted out should be planted in loam, sand, and peat.

West.

DERIVATION OF THE NAMES.

Generic name, Gonolobus, from γωνια an angle, λοθος a pod. The specific name, hispidus, from its hairiness.

SYNONYMES.

Gonolobus Hispidus. Hooker; in Arnoth. Bot. Journal, t. 295. Bot. Magazine, t. 3786.





Generala brustoulatu

## GENIS'TA BRACTEOLA'TA.

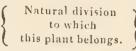
RACEMOSE GENISTA.

EXOGENÆ.



OR

DICOTYLEDONEÆ.





NATURAL ORDER, LEGUMINOSÆ.

OF DECANDOLLE.





Artificial divisions
to which
this Plant belongs.





No. 235.

GENUS. Genista. Lamarck. Calyx bilabiatus, labio superiore bipartito, inferiore tri-dentato, aut quinque-lobe, lobis tribus inferioribus ad apicem feré coalitis. Vexillum oblongo-ovale. Carina oblonga, recta, genitalia non omnino continens. Stamina monadelphia. Legumen plano-compressum aut rarius subturgidum, polyspermum rarius oligospermum, eglandulosum. Decandolle, Prod. vol. 2, p. 145.

SPECIES. Genista bracteolata (Link) foliis trifoliolatis, foliolis obovatis, racemis brevibus, ramis striatis, cum foliis adpresse serieeo-pubescentibus.

Character of the Genus, Genista. Calyx bilabiate, with the upper lip bipartite, and the inferior tridentate, or else five-lobed, with the three inferior lobes united nearly to the apex. Vexillum oblong-oval. Keel oblong, straight, incompletely enclosing the sexual organs. Stamens monadelphous. Legume flatly-compressed, or more rarely somewhat turgid, many-seeded, rarely few-seeded, without glands.

Description of the Species, Genista bracteolata. A large shrub, with numerous pendant branches, flowering profusely from almost every lateral branch. Branches angular. The whole plant covered with short appressed silky tomentum. Leaves trifoliate, on moderately long petioles, the leaflets obovate-lanceolate, slightly mucronate, darker above, more silky below, stipules very small, subulate. Racemes moderately crowded, rather short; the pedicels short, with a linear lanceolate bract at their base, or about half way up, and two other very minute ones close to, and alternating with, the lips of the calyx. Calyx with the upper lip bipartite, forming two equal

REFERENCE TO THE DISSECTIONS.

I, Calyx. 2, Standard. 3, Wing. 4, A Petal of the Keel. 5, Stamens and Pistil. 6, The whorl of stamens opened. 7, A flower with a double standard.

teeth, the lower lip about the size of one of the divisions of the upper, somewhat depressed, with three very minute teeth. Flower bright yellow. Standard oblongo-subcordate, emarginate, with a very short claw. Wings obliquely linear-obovate, with narrow linear twisted strap-shaped claws. Keel ovate-oblong, straight, enveloping (at first) only the base of the staminiferous tube, but ultimately drooping, and almost entirely excluding it, its petals somewhat smaller and paler, but very like the wings. Stamens monadelphous, alternately long and short. Ovary somewhat compressed, hairy, containing about nine ovules.

POPULAR AND GEOGRAPHICAL NOTICE. Dr. Lindley having kindly identified our plant with Genista bracteolata we can have no hesitation in assigning to it the name of that species. In the brief descriptions of Decandolle's Prodromus it is impossible to find characters sufficiently precise for separating species so closely allied as this and Genista candicans, and perhaps further enquiry may, after all, prove them to be identical. At least the figure in the Botanical Register, with its elongated racemes of scattered flowers, scarcely accords with our much more condensed and shorter ones, or even with one of Link's specific characters, "racemis brevibus"; neither can the leaflets of our plant be considered "obtusissima." Such discrepancies in descriptions make it difficult for us to feel satisfied, when comparison with authentic specimens would probably leave us in no doubt. species seems inclined to produce double flowers, at least we found some which had a double standard, and where the upper lip of the calyx was subdivided into three segments. J. S. HENSLOW.

Introduction; Where grown; Culture. The plant was raised from seed, by R. Bevan, Esq., near Bury St. Edmunds, under the name of Cytisus Chrysobotrys, but he is not aware from whence the seed was obtained. The specimen figured in the Botanical Register was raised from seeds gathered by Mr. Webb at Teneriffe. It is probably of easy culture; and, flowering so early as the first week of March, is a great acquisition to the greenhouse.

DERIVATION OF THE NAMES.

GENISTA, from the Celtic word Gen, a small bush. RACEMOSUS, full of clusters.

SYNONYME.

GENISTA RACEMOSA. Lindley, Bot. Reg. 1840, pl. 23.





# LOBE'LIA CAVANILLE'SII.

CAVANILLE'S LOBELIA.

EXOGENÆ.

OR

MONOCOTYLEDONEÆ.









NATURAL ORDER, LOBELIACEÆ.

OF DECANDOLLE.





Artificial divisions to which this Plant belongs.





PENTANDRIA, MONOGYNIA, OF LINNEUS.

No. 236.

GENUS. Lobelia. Linnæus. Calyx 5-lobus; tubo obconico, ovoideo, vel hemisphærico. Corolla superne longitudinaliter fissa, bilabiata, tubo cylindraceo vel infundibuliformi recto; labio superiore sæpius minore et erecto, inferiore sæpius patente latiore 3-fido vel rarius 3-dentato. Antheræ 2 inferiores vel rarius omnes apice barbatæ. Ovarium inferum vel semisuperum, imo (in speciebus simillimis) subliberum. Herbæ vel rarius suffrutices, foliis alternis, floribus sæpius racemoso spicatis, pedicellis axillaribus, corolla cærulea alba, violacea, rubra vel ex rubro aurea.

SPECIES. LOBELIA CAVANILLESII (MARTIUS) foliis lineare-lanceolatis, serrulatis, glabris; pedunculis folio æquantibus fere semper ebracteatis; calyce 5-fido, glaberrimo, undulato, segmentis tubo campanulato æquantibus; antheris hirsutissimis.

Character of the Genus, Lobelia. Calyx 5-lobed; tube obconical, ovoid or hemispherical. Corolla split longitudinally above, bilabiate, the tube cylindrical or funnel-shaped, straight; the upper lip generally smaller and erect, the lower generally spreading broader, 3-cleft or rarely 3-toothed. Anthers, the two lower, or rarely the whole, bearded at the top. Ovarium inferior, or half superior, or (even in species much allied) nearly free.

Description of the Species, Lobelia Cavanillesii. Stem, (4 feet high) erect, but slender and lax, glabrous, of deep red-purple, marked by prominent scars where the leaves had fallen, branched below, hardly above, somewhat woody. Leaves (3-4½ inches long) narrow lanceolate, acutely serrulate, spreading wide, glabrous, darker above than below, where the strong middle rib and reticulated veins are very prominent. Peduncles axillary, solitary, filiform, wiry, glabrous, purple, about as long as the leaves, ebracteate, spreading wide, or having a segmoid flexure outwards. Calyx green, purplish along the ribs, undulate, glabrous, 5-cleft, segments ovato-linear, as long as the tube which is campanulate. Corolla glabrous, bilabiate, inserted into the throat of the calyx, cleft along the whole of its upper side, where it is red but yellow below and within; segments of the upper lip linear, acute, erect and twisted; lower lip oblong, slightly deflected, 3-dentate. Stamens scarcely shorter than the corolla; fila-

ments at first yellow, afterwards reddish, inserted into the calyx at the base of the corolla, to which they adhere at their origin, monadelphous; anthers coherent along their whole extent, red on the outside before the corolla opens, afterwards leaden coloured, densely covered with long white hairs which arise from the lines between them, yellow on the inside and yielding yellow pollen. PISTIL rather shorter than the stamens; style yellow, glabrous; stigma of two short blunt lobes, each having a tuft of hairs at its base; germen half superior, conical at its apex, bilocular, placentæ central, and covered with many small ovules.

POPULAR AND GEOGRAPHICAL NOTICE. The genus Lobelia, though much reduced, may still require reform. Lobelia Cavanillesii and the species figured at tab. 139 of this work, are among those in which a diversity of habit makes it desirable that a good technical character could be formed by which to separate them. cultivation in this country as species of Siphocampylus, but with that genus (see No. 227), they neither agree in character nor habit. Decandolle considers tab. 139, Lobelia laxiflora of Humboldt and Kunth, and this, to be merely varieties of the same. smaller growth of this and the character which I have drawn of it may, perhaps, keep them specifically distinct. In cultivation I have not seen them to vary so much as Decandolle thinks they do, but enough to make me little confident in this opinion. I believe they are both natives of Mexico.

Introduction; Where grown; Culture. Lobelia Cavanillesii was first described in this country by Sir W. J. Hooker in 1837, with a statement that it was imported into the Botanic Garden, Glasgow, from Professor Lehmann of Hamburgh. It was received at the Botanic Garden, Edinburgh, from Mr. Rollison, in 1838, is now frequent in collections; its elegance and beauty entitle it to general cultivation. It is probable that Mr. Cameron's observations regarding the culture of Siphocampylus bicolor (No. 139), may in some degree be applicable to this plant.

DERIVATION OF THE NAME.

LOBELIA in honour of Lobel, physician to James the VI of Scotland.

#### SYNONYMES.

LOBELIA CAVANILLESII. Mart. choix. pl. jard. Mun. p. 12, t. 9. Hook. in Bot. Mag. 3600. Anonyma VI, Hernand, t. 351. L. persicifolia Humb, et Kunth, nov. Gen. Am. 3 p. 310.

RAFUNTICUM KUNTHIANUM. Presl. Prodr. Lob. p. 27. Andrieux. pl. mex. n. 267.

Siphocampylus Cavanillesii. Hort. Lobelia laxiflora  $\beta$ , angustifolia D. C. Prodr. 7, 383.

All these I quote on the authority of Decandolle, except the Bot. Mag., Humboldt, and the garden name, not having seen any other of the works.









